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The Normandy Landing

Barry W. Fowle

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On 6 June 1944, the Allies began Operation OVERLORD, the invasion of the European continent that was designed to bring to a close a war that had lasted far too long. The amphibious assault on Normandy in World War II was the key to the Continent. Two years of planning went into Operation NEPTUNE, as the landing on Normandy was known. The troops would assault in five beach areas with an initial strength of six reinforced infantry divisions landing from the sea and three airborne divisions dropping behind the lines by parachute and glider. The First United States Army would land on two beaches, and the Second British Army would land on three beaches.

The planners chose First Army to make the D-day assault for the Americans on two beaches, OMAHA and UTAH. They assigned OMAHA Beach to V Corps, with its 1st and 29th Infantry Divisions. The VII Corps got UTAH Beach. Its 82d and 101st Airborne Divisions would drop inland and link up with the 4th Division landing on the beach several hours later.

The Engineer Special Brigade Group (Provisional), consisting of the 5th and 6th Engineer Special Brigades (ESBs), provided landing support for V Corps. On D-day it landed 34,250 men and 2,870 vehicles. Of these, 5,632 men and 315 vehicles belonged to the Engineer Special Brigade Group. Approximately 2,500 other engineers—members of corps and divisional units—also landed. Engineers made up approximately 25 percent of all the troops that landed on OMAHA.

Thirty engineer officers and 516 engineer enlisted men, to include 11 officers and 115 enlisted men who were Navy demolitions personnel, landed with the 1,450 assault infantry during the first phase of the operation. Of the personnel that made the initial landings at 0630 on 6 June 1944, engineers represented over one-third.

The 1st Engineer Special Brigade conducted similar operations on the American UTAH Beach where, on the first day of the invasion, it put ashore some 20,000 troops and 1,700 vehicles of VII Corps' 4th Infantry Division and supported units.

Assault gapping teams designed to blow holes in the obstacle lines on the beach, called Assault Force O (OMAHA) and Assault Force U (UTAH), trained at the British Assault Training Center, Woolacombe, England. Intelligence provided aerial photographs showing the types of obstacles on OMAHA Beach, and mockups of them were made for training purposes. The men completed schooling in four weeks.

OMAHA Beach was a 7,000-yard slash of sand with up to 200 feet exposed at high tide and as much as 400 yards showing at low tide. An 8-foot bank of coarse shingle (gravel) marked the seaward edge of the western part of the beach. To the rear of the center of the beach, a line of grass-covered bluffs rose some 100 to 170 feet. They sloped downward at either end, merging with the rocky coast that enclosed OMAHA.

Generally, the obstacles on OMAHA consisted of two bands, fifty to seventy-five yards wide, with about the same distance separating them. The outer line of obstacles consisted of the following: element C (Belgian Gate) with a specially adapted, waterproofed version of the powerfully lethal German antitank Teller mine on the forward face; wooden ramps; and posts topped with Teller mines. The inner band combined wooden posts and ramp-style obstacles backed by three staggered rows of steel hedgehogs. The Germans spaced the element C, ramp-type, and post-type obstacles twenty to forty feet apart and scattered them in depth. They spaced the steel hedgehogs ten to fifteen feet apart.

The general plan for the engineers called for the development of the OMAHA beachhead in three phases: the assault phase, the initial dump phase, and the beach maintenance dump phase. The first two phases took

place on D-day. During the assault phase, engineer special assault gapping teams, support teams, and command teams came ashore and destroyed the obstacles lining the shore. Engineer battalion beach groups followed these engineer teams and established initial dumps of ammunition and fuel, cleared the exits, and developed roads for the supported infantry units. The assault planners divided OMAHA Beach into eight contiguous landing beaches with five designated exits leading through natural draws.

Engineer assault, support, and command teams were alike in composition, but the assault teams carried less demolitions. Each team consisted of twenty-eight Army engineers and a Naval Combat Demolition Unit (NCDU). The NCDU consisted of a naval officer and twelve enlisted men, seven from the Navy and five (volunteers) from the Army. The teams carried one thousand pounds of explosives, demolition accessories, mine detectors, mine gap markers, and other materials. Each member lugged seventy-five pounds of equipment, including forty pounds of explosives. Sixteen assault teams went in with the infantry in the first wave to blow fifty-yard-wide gaps in the obstacles on the first tide, the naval units working on the seaward band of obstacles and the Army units clearing the inshore obstacles. The support teams followed within eight minutes, enlarging the gaps on the beach and destroying obstacles.

The 299th Engineer Combat Battalion (less one company at UTAH Beach) and ten NCDUs accompanied the 16th Infantry landing on the eastern sector of OMAHA. The 299th was the only American unit to land at both OMAHA and UTAH Beaches on 6 June 1944. The 146th Engineer Combat Battalion, with eleven NCDUs, supported the 116th Regimental Combat Team (RCT) in the western sector. Each of the engineer battalions consisted of eight assault demolition teams (each having one NCDU), four support demolition teams, and a command team. The support teams got the remaining five NCDUs.

For the first troops on OMAHA, the early hours bordered on disaster. Because of the haze and strong shore currents, all landed to the left of their assigned beaches by 700 to 2,000 yards. Devastating machine gun fire raked the beach. All told the Germans damaged about 60 percent of the equipment and wounded

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about 34 percent of the attacking force.

On the left of Easy Red, the engineer assault team led by 2d Lt. Phill C. Wood, Jr., Team 14, landed at least five minutes early. An artillery shell killed most of his Navy team. The survivors wired a line of obstacles but could not blow them because the infantry took cover behind the obstacles and refused to move. Wood then moved his men forward to support the infantry.

Other engineer assault teams had little more success. Team 13 lost its naval detachment when an artillery shell hit its boatload of explosives at Easy Red. The rest of the team could not set off its charges on the obstacles because infantry landing parties used them for cover. Team 12 cleared a thirty-yard gap on Easy Red, but lost nineteen men when a German mortar shell struck a line of primacord, prematurely setting off the charges strung about one series of obstacles. Team 11 arrived on the far left bank of Easy Red ahead of the infantry and lost over half of its men to enemy fire. A faulty fuse prevented the remainder of the team from blowing a passage through the obstacles.

Only two teams, 9 and 10, accomplished their missions on the eastern sector of OMAHA. Team 9 landed in the middle of Easy Red well ahead of the infantry waves and opened a fifty-yard path for the main assault. Despite heavy casualties, Team 10, within twenty minutes of landing, cleared the infantry from behind the obstacles and demolished enough barriers to create gaps ten to fifty yards wide.

The rest of the teams in the area fared about as well as Lieutenant Wood's team. At Fox Green, Team 16 plunged off its landing craft, mechanized (LCM), at 0633. Here too the infantry refused to leave the protective cover of the obstacles.

Team 15 lost several men to machine gun fire before landing at 0640. It took more casualties when a shell hit its explosive-laden rubber boat. The survivors attacked the Belgian Gates farthest from shore, but heavy enemy fire cut away fuses as rapidly as the engineers could rig them. One burst of fragments carried away a fuseman's mechanism, along with all of his fingers. The team had no choice but to run for the protective low shingle bank on shore. Only four of the original forty-man team remained uninjured.

Seven teams bound for the 116th Infantry's beaches on the western half of OMAHA—Dog Green, Dog White, Dog Red, and Easy Green—were on schedule, most coming in ahead of the infantry companies in the first waves. The eighth team landed more than an hour late, its landing craft, tank (LCT), having sunk shortly

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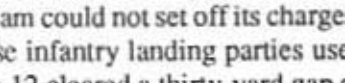

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Teller mine on a pole, UTAH Beach, France, 15 September 1944.

after leaving England. The duplex-drive tanks, used as artillery on the 116th Infantry's beaches, could not match the German guns.

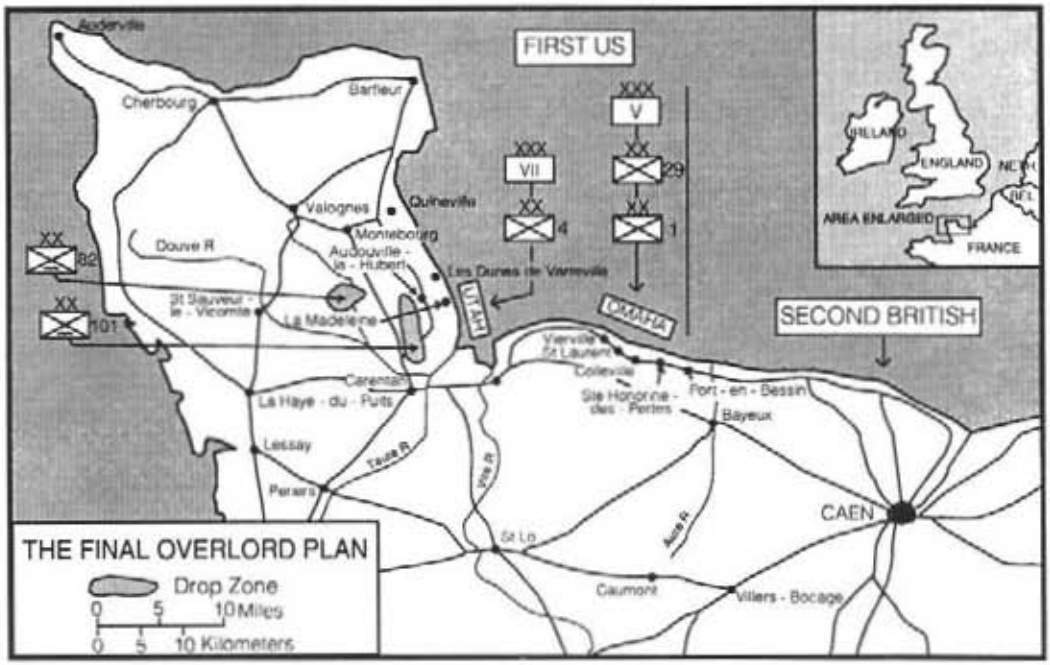
Team 8 landed a little to the left of Dog Green and blew a fifty-yard gap in the barrier line before the infantry landed. Teams 3 and 4 were badly shot up and accomplished little. Teams 5 and 7 could not do a thing because the infantry took cover among the beach obstacles. Teams 1 and 6 managed to open fifty-yard gaps, one on Dog White and the other on Dog Green.

Eight support teams and two command teams, scheduled to arrive within eight minutes, arrived late, between 0640 and 0745, and off course near Fox Red. Command Boat 1 unloaded a crew on the beach flat of Easy Green at 0645 and opened a fifty-yard gap in the obstacles. Team D opened a gap of thirty yards, but the rest of the teams accomplished little else. German artillery put two rounds into Team F's LCM, wounding and killing fifteen men. Only four men of the original team got to shore.

Of the sixteen M4 tankdozers scheduled to land with the assault gapping teams, only six got ashore. With the beach so crowded, the engineers defused the mines on obstacles instead of blowing them. They then used the tankdozers to shove the barriers aside. Eventually the Germans knocked out all but one of the dozers.

The second phase of engineer operations on OMAHA began with the arrival of the four beach groups charged with providing overall control to engineer operations on the beaches: the 37th Engineer Battalion Beach Group; the 149th Beach Group, with the 112th Engineer Combat Battalion (ECB) and the 147th ECB; and the 348th Beach Group. The 336th Engineer Combat Group was scheduled to arrive in the afternoon and organize Fox Red.

The first landings of the group engineers began with Capt. Louis J. Drnovich, commanding officer of Company A, 37th ECB, who arrived at 0700 on Fox Green opposite Exit 3, ten minutes ahead of schedule. Within the next twenty minutes, three other detachments of the battalion came ashore. Enemy fire still swept the beach, so these men assisted in aiding the wounded and in building up the fire line from the protection of the shingle instead of performing their engineer mission. At Exit E-1, one of two landing craft, infantry (LCIs), carrying the battalion staff broached on a stake and had to drop the men off into neck-deep water. They waded ashore under machine gun fire to a beach still crowded with the men of the first waves. A mortar round killed the commander of the 37th, Lt. Col. Lionel F. Smith, and two members of his staff, Capts. Paul F. Harkleroad and Allen H. Cox, Jr., as soon as they landed. An LCI put Company B, 37th



The final OVERLORD plan.

ECB, ashore safely at 0730 hours at Exit E-1, but Company A, scheduled to open Exit E-3 for the 3d Battalion, did not arrive until 0930. It had landed near E-1 and had to make its way east through the wreckage on the beach to E-3, where it ran into such heavy fire that it did little all day. Company C lost many men when it took a direct hit to its LCI on landing at Exit E-1.

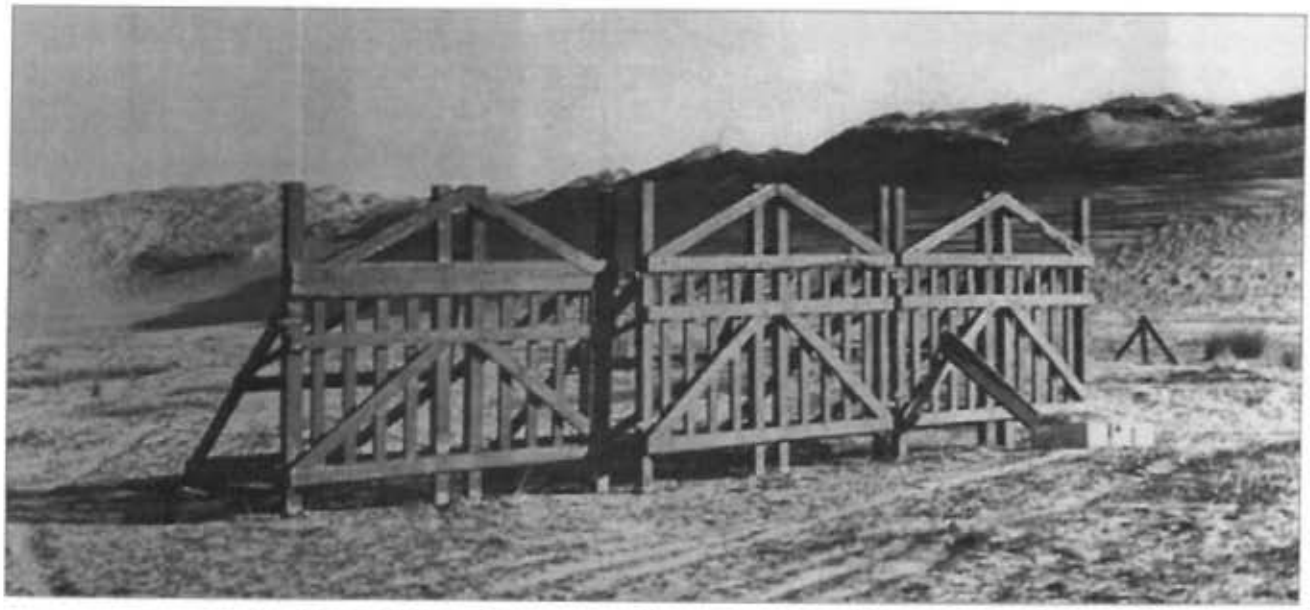
Farther west an eighteen-man reconnaissance and beach-marking team of Company C, 149th ECB, in support of the 116th Infantry, arrived at 0705, five minutes early. It landed on Easy Green rather than the assigned Dog Red just to the west. The rest of the company arrived in LCTs at 0720 and moved forward to the shingle line while under fire from the hill behind the beach. Even though they were on the wrong beach, the men began cutting an access road through the dune line to the beach's lateral road. But heavy fire forced them back to the beach.

Still farther west, the first wave of the 147th ECB, ninety men of Companies B and C, reached Dog White at 0710. Artillery set the 147th's landing vessel afire and caused forty-five casualties. The engineers left the boat in neck-deep water, abandoning their carry-off equipment.

The confusion of the first hour of the invasion mounted during the next. Landings continued, but men and vehicles could not move off the beach. Divisional and group engineers blew gaps here and there in the barbed wire along the dunes, and a few small infantry detachments managed to work their way toward the base of the slopes, but most of the units piled up behind the shingle bank in rows three deep. In many cases the officers of these units had been killed or wounded. The rest of the 37th ECB landed in several groups near Exit E-1. Artillery fire twice drove away from shore the craft carrying the mine removal platoon of Company B. It was finally hit and beached. An 88-mm. shell destroyed the steering gear of the LCT bearing the reconnaissance group of Company C, forcing it to make an emergency landing. Units of the 348th ECB landed near E-1 instead of on Fox Beach as planned.

Obstacles on Easy Red forced LCI 92, with units of the 147th and 149th, to move to Dog White where it tried to force its way ashore. A mine set it afire, causing heavy casualties. The survivors jumped into neck-deep water and made their way to shore. Many suffered from burns, shock, and exposure.

Slowly, against stiff German opposition, the Americans began opening the exits. At Exit E-1, where Lt. Col. William B. Gara's 1st ECB and the attached 20th ECB worked on clearing a road off the beach, Sgt. Zolton Simon, Company C, 37th ECB, led his five-man squad in clearing and marking a narrow path through the mines. Wounded once while sweeping for mines, Simon got a second, more serious wound after reaching the top of the bluff, but a path had been cleared. For his actions he was awarded the Silver Star.



Model of a Belgian Gate, part of the engineer demolition range at the U.S. Assault Training Center, February 1944.

Exposed to enemy fire, 1st Lt. Charles Peckham of Company B stood in the path and urged the infantrymen to follow Simon up the now mine-free trail. He received the Bronze Star.

To exploit the initial success at E-1, the engineers had to expand the exit lanes quickly. Mines, barbed wire, obstacles, antitank ditches, and impassable gravel and sand barred the tanks from moving until Pvt. Vinton Dove, a bulldozer operator from Company C, assisted by his relief operator, Pvt. William J. Shoemaker, took on these obstacles. Dove and Shoemaker cleared a road through the shingle, removed a roadblock at E-1, and filled the antitank ditch, opening a path for the Sherman tanks. For their actions both men received the Distinguished Service Cross (DSC).

First Lt. Robert P. Ross, Company C, won the third of the three DSCs awarded to men of the 37th on D-day. Heavy fire from a hill overlooking Exit E-1 held up the advance so Lieutenant Ross added a leaderless company of infantry to his own engineer platoon and fought his way up the bluff. Ross' mixed command killed forty Germans and captured two machine gun positions. Largely due to the efforts of men like Simon, Peckham, Dove, Shoemaker, and Ross, E-1 was cleared by noon on D-day and became the main egress from OMAHA Beach for the 1st Infantry Division.

Exit E-3 yielded slowly to engineer persistence. Still under artillery fire around 1630, the beach remained unmarked for incoming boat traffic. As soon as engineers erected signs, German artillery destroyed them. By 1700 the 348th ECB had cleared the mines from the lateral road along the beach. Members of the 37th and 348th ECB moved to the base of the uplands to begin work in the draw, now choked with wrecked American tanks and half-tracks. When the men attempted to open a road from the beach, an 88-mm. gun interfered with their work. Captain Drnovich tried to destroy the gun, but was killed. For his bravery he was posthumously awarded the Silver Star. Finally, just after midnight, tanks began to move over the hill to Colleville, but trucks could not move until the engineers cleared the roads the next morning.

The Dog beaches, between Les Moulins and Vierville, were the most strongly fortified part of OMAHA. There, stone-walled summer villas protected German machine gunners and snipers, and the cliffs at the westward end of Pointe de la Percee provided excellent observation points for German artillery positions behind the resorts. This area belonged to the 116th RCT, whose supporting engineer combat battalions, the 112th, 121st, and 147th, suffered severely during the landings.

Survivors of the first sections of the 147th to come in on Dog White at 0710 joined the infantrymen in the fight for Vierville or climbed the cliffs with the Rangers. At midmorning the battalion commander, concerned about a growing congestion of tanks and vehicles on Dog Green, ordered his units to concentrate on blowing a concrete revetment blocking Exit D-1. With the help of the men of Lt. Col. Robert R. Ploger's

After landing on a beach in France, engineers lay out roads on the soft sands for the heavy vehicles and equipment yet to come ashore, 6 June 1944.

121st ECB, the 147th opened the exit. But it was not fully usable until 2100.

The initial contingent of the 121st lost one of its two company commanders—Capt. Svend A. Holmstrup of Company C— before he could step off the ramp of his LCM. Within twenty-four hours, all three line company commanders in the 121st plus six other officers had become casualties. The battalion also counted fifty-three enlisted casualties on D-day.

During the course of clearing the Les Moulins draw at Exit D-3, between Dog Red and Easy Green, a burst of artillery fire killed the 112th ECB commander, Maj. William A. Richards, and enemy fire pinned his men behind a seawall. Even with the assistance of a platoon of the 147th, which came in with most of its equipment during the day, the 112th was unable to open Exit D-3 until 2000.

Col. Paul W. Thompson of the 6th ESB came ashore at Dog Green about 0730 on D-day. His subordinate units were attached to the 5th ESB the first day, so he assisted on the beach. About 1100, while pushing a bangalore torpedo under a wire barrier during an assault on a beach bunker at Exit D-1, he was shot and seriously wounded. For his actions that day, Colonel Thompson was awarded the DSC.

The task of opening Exit F-1 belonged to the 336th Engineer Battalion Beach Group, scheduled to land after 1200 on D-day at Easy Red near E-3, then march east across Fox Green to Fox Red. Some of the advance elements went ashore on E-3 at 1315 and made their way through the wreckage on the beach, falling when enemy fire came in and running during the lulls.

Three platoons of the 336th's Company C landed at the end of OMAHA farthest away from the Fox beaches at Dog Green about 1500. The men assembled at the shingle bank and began a hazardous march toward Fox Red, more than two miles away. By the time the engineer column reached the F-1 area at 1700, two men had been killed and twenty-seven wounded.

Once at Fox Red the engineers turned to mine clearance. The men assembled several mine detectors from abandoned equipment and cleared the mines from fields near the beach. A tankdozer filled in an antitank ditch, and the teams worked up a hill with a tractor following, opening Exit F-1. By 2230, fifteen tanks had passed through the exit to the Colleville area to help the infantry clear the town.

Shortly after 1500, Brig. Gen. William M. Hoge, Commanding General, Provisional Engineer Special Brigade Group, landed at Exit E-1 and set up his command post in a concrete pillbox just west of the exit. From there he assumed engineer command responsibility on OMAHA Beach, taking over from the 5th ESB commander, Col. Doswell Gullatt.

To the west of OMAHA Beach lay the 9,000-yard-long UTAH Beach, extending from the mouth of the Vire River north-northwest to Quineville. The VII Corps divided UTAH into two beaches, Tare Green and Uncle Red, with four exits. Longer and wider than OMAHA, UTAH lacked the commanding heights that gave the enemy at OMAHA a superior defensive position. A masonry wall paralleled the beach. Behind it the dunes leveled out into fields. Beyond the dunes a water barrier ran a mile or so inland from Quineville on the north to Pouppeville on the south. The Germans had created the barrier by reversing the action of the locks constructed by the French to convert salt marshes into pastureland. Seven causeways crossed the wet area in the region of the UTAH landings to connect the beach with a north-south inland road. Most were under water. The northernmost, although dry, could not be used because it was too close to German artillery. The assault area lay between two towns, La Madeleine on the south and Les Dunes de Varreville on the north. The southernmost beach on UTAH, Uncle Red, was one thousand yards long and straddled a causeway road named Exit 3, which led directly to the village of Audouville-la-Hubert three miles behind the beach. Tare Green Beach occupied the one thousand yards to the right of Uncle Red.

The density of obstacles encountered on UTAH Beach varied from moderate on the right flank to negligible on the left. The obstacles consisted largely of scattered wooden ramps shaped like the letter "A," element C, wooden and concrete piles, and tetrahedra or hedgehogs, about five and one-half feet high, made of three or more steel rails or angles crossed at the centers, and so strongly set that the ends would cave in the bottoms of landing craft. Delay mines, conspicuously absent in the actual assault area, dotted the intended assault area.

The VII Corps got the assault mission at UTAH. Plans called for the 8th Infantry, 4th Infantry Division, to go ashore, two battalion landing teams abreast, followed closely by the 70th Tank Battalion as artillery support. They would work their way inland and make contact with the 82d and 101st Airborne Divisions, landing by both parachute and glider in the area behind UTAH Beach.

UTAH Beach plans called for the Ninth United States Air Force to bomb four paths through the beach obstacles just before H-hour, with fire lifting at H minus five minutes. The assault teams of the 1st ESB, Assault Force U, were to land immediately behind the 4th Division in the first wave to enlarge the paths opened by the planes and to cut other gaps at fifty-yard intervals.

The 1st ESB, supporting the landings of the 4th Infantry Division, VII Corps, on UTAH Beach, had duties similar to those of the 5th ESB on OMAHA. A battalion beach group of the brigade's 531st Engineer Shore Regiment operated Uncle Red Beach on the left and Tare Green Beach on the right. As soon as a third beach group landed, it would open a third beach, Sugar Red, to the right of Tare Green.

Plans called for engineer demolitions to begin at 0635, five minutes after the infantry landed. Maj. Herschel E. Linn, who commanded the 237th ECB, led an ad hoc Beach Obstacle Demolition Party which controlled the teams. Linn planned eight fifty-yard gaps, four in each of the two landing sectors, Uncle Red and Tare Green. Twelve NCDUs would attack the seaward band of obstacles. Simultaneously, eight Army assault gapping teams would attack the landward obstacles.

Because of the smoke from the prelanding bombardment and the loss of two small Navy control vessels marking the line of departure off the beach, the entire first wave of the 8th Infantry's assault landed two thousand yards south of its intended landfall. There they encountered light opposing fire and few obstacles. Within five to eight minutes the teams blew the first gaps of more than fifty yards. The assault teams immediately wired and blew their second and even third shots, widening the gaps southward as planned. The work continued under enemy artillery fire that increased after H-hour. Then the demolitionists worked northward, widening cleared areas and helping demolish a seawall. By 0930 the teams had freed UTAH Beach of all obstacles. The Navy teams went out on the flats with the second ebb tide and worked until nightfall on the flanks of the beaches. At noon the Army teams prepared to assist the assault engineers in opening the exit roads. The NCDUs and Army assault teams had completed most of the work by the time the support teams arrived. Within an hour the engineers began to place explosives for breaching the seawall.

Although the action on UTAH Beach was not as severe as on OMAHA, the engineers did have problems in trying to construct roads off the beach. Less than half of the engineers' road-building equipment reached shore on D-day. Only five of twelve expected LCTs landed safely, all on the second tide. Many engineer vehicles drowned out when they exited into deep water. Hauling out such vehicles under enemy artillery fire proved one of the more difficult engineer tasks on D-day.

Artillery accounted for most of the personnel casualties in the 1st Engineer Brigade. The unit lost twenty-one killed and ninety-six wounded on D-day. Strafing by enemy planes during the first evening caused most of the rest of the casualties.

While the assault teams blew obstacles, Companies A and C, 237th ECB, which had landed with the 8th Infantry at H-hour, created gaps in the seawall some fifty feet above high water, removed wire, and cleared paths through the dunes to provide vehicle exits from the beach. Beyond the wall, a ridge of sand dunes 10 to 15 feet high and 100 to 150 feet deep containing a 50-foot belt of mines provided another obstacle to the engineers. Later in the morning bulldozers arrived to build roads across the dunes.

Exit T-5, just north of Tare Green Beach, was flooded but had a hard surface and was usable during the first night. Exit U-5 at Uncle Red, above water for its entire length, became the first route inland leading to the village of Ste. Marie-du-Mont. South of U-5, near Pouppeville and the Douve River, lay the third road used on D-day, Exit V-1. Although in poor condition, the road was almost completely dry.

At the entrance to Exit U-5 the Germans had emplaced two Belgian Gates. Company A, 237th, blew them and also picked up several prisoners from pillboxes along the seawall. The engineers accompanied the 3d Battalion, 8th Infantry, inland along Exit U-5. About halfway across the U-5 causeway, they found that the Germans had blown a concrete culvert over a small stream. While the infantry proceeded, Capt. Robert P. Tabb brought up a bridge truck and a platoon of Company B and began constructing a thirty-foot treadway bridge, the first bridge built in the UTAH landing area. They were helped by men of the 238th ECB, who had landed around 1000 with the main body of the 1106th Engineer Combat Group.

Two companies of the 49th ECB accompanied the 2d Battalion, 8th Infantry, on its march south to Pouppeville. The engineers worked on Exit V-1 from the beach through Pouppeville to the north-south inland road, while the infantry made contact with the 101st Airborne Division. Company G, 8th Infantry, had the mission of capturing the locks southeast of Pouppeville that the Germans had manipulated to flood the pastureland behind Tare Green and Uncle Red Beaches. An enemy strongpoint farther south at Le Grand Vey protected the locks.

While the infantry passed the locks, the 49th's Company A secured them, took twenty-eight prisoners, and dug in defensively to protect them from recapture. The next day the company overcame the German strongpoint at Le Grand Vey, capturing fifty-nine prisoners, seventeen tons of ammunition, large numbers of small arms, and three artillery pieces.

By dark on D-day the 1st ESB had opened Sugar Red. It had cleared the beach of mines and wrecked vehicles, improved the roads, set up route markers, and made Exit T-5, the road leading inland from Sugar Red, passable for vehicles. It also established dumps for ammunition and medical supplies and found sites for other dumps behind the beaches.

During the period of organizing the beach, several members of the 1st ESB distinguished themselves in action. First Lt. Sidney Berger received the Silver Star for saving the lives of several men during an artillery attack. Pvt. Everett Brumley received the Silver Star for rescuing a wounded soldier staggering along the beach who was blinded. Sgt. James C. McGrath was awarded the Bronze Star for sweeping for mines while under artillery fire and rendering first aid to one of his men who was seriously wounded by a mine.

Although the troops generally ran behind schedule on OMAHA, at UTAH the entire 4th Division, with 20,000 men and 1,700 vehicles, was ashore within fifteen hours after H-hour. The major difference between the two beaches was the absence of Teller mines on the obstacles at UTAH. The lack of mines enabled dozer work on UTAH to proceed faster. Even so, enemy fire took 10 percent of NCDU personnel and more than 8 percent of Army personnel.

Despite the doubts and fears of the early hours on OMAHA, the invasion was successful. That success was, in great part, attributable to the efforts of the engineers. They contributed to the victory in their dual role as engineers and infantry. Without their effort in destroying obstacles on the beach, clearing minefields, constructing exit roads off the beach, and fighting in the line as infantrymen, the invading force might not have held the beachhead and established the critical toehold in Nazi-occupied Europe.

Dr. Barry W. Fowle is a retired lieutenant colonel, AUS. He has been a historian with the Corps of Engineers since 1983 and is an instructor of military history at the U.S. Army Engineer School.

Suggestions for Further Readings

As good a book as any on Normandy is Cornelius Ryan, *The Longest Day, June 6, 1944* (New York: Simon and Schuster, 1959). Alfred M. Beck et al., *The Corps of Engineers: The War Against Germany*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1985), has several chapters

on Normandy. Department of the Army, Historical Division, *Utah Beach to Cherbourg* (Washington, D.C.: Center of Military History, 1984), and Department of the Army, Historical Division, *Omaha Beachhead (6 June - 13 June 1944)* (Washington, D.C.: Center of Military History, 1984), are both readable, short mongraphs on their respective landings. Brig. Gen. William F. Heavey, *Down Ramp: The Story of the Army Amphibian Engineers* (Washington, D.C.: Infantry Journal Press, 1947), has an excellent chapter on amphibian engineers in the Normandy invasion.

Editor's Journal

The lead article for this issue is Dr. Barry W. Fowle's look at the role of Army engineers at Normandy, as we continue to focus on the fiftieth anniversary of the U.S. Army in World War II.

Some of our readers no doubt are wondering what happened to the "Archaic Archivist" feature. For the moment, the "Archaic Archivist" has covered rather thoroughly the World War II holdings at the Military History Institute. However, the column will appear again, from time to time, with more news about the various collections at the institute.

A.G. Fisch, Jr.

Air Force Historical Research Agency Research Grants Announced

The Air Force Historical Research Agency announces research grants to encourage scholars to study the history of air power through the use of the U.S. Air Force historical document collection at the agency. Awards range from $250 to $2,500. Selectees must meet the criteria stated in this announcement and be willing to visit the agency for research during fiscal year 1995 (which ends 30 September 1995). Recipients will be designated "Research Associates of the Air Force Historical Research Agency."

Criteria

Applicants must have a graduate degree in history or related fields, or equivalent scholarly accomplishments. Their specialty or professional experience must be in aeronautics, astronautics, or related military subjects. They must not be in residence at Maxwell Air Force Base, Alabama, and must be willing to visit the Air Force Historical Research Agency for a sufficient time to use the research materials for their proposed projects. Active duty military personnel are eligible to receive a grant.

Topics of Research

Proposed topics of research may include, but are not restricted to, Air Force history, military operations, education, training, administration, strategy, tactics, logistics, weaponry, technology, organization, policy, activities, and institutions. Broader subjects suitable for a grant include military history, civil-military relations, history of aeronautics or astronautics, relations among U.S. branches of service, military biographies, and international military relations. Preference will be given to those proposals that involve the use of primary sources held at the agency. Proposals for research of classified subjects cannot be considered for research grants. As a general rule, records before 1955 are largely unclassified, while many later records remain classified. Examples of classified subjects include nuclear weapons and war planning, weapons systems presently in the Air Force inventory, and Air Force operations since the Vietnam War.

Application Deadline

Applicants can request an application from the Commander, Air Force Historical Research Agency, Maxwell Air Force Base, Alabama 36112-6678. The completed applications must be returned by 1 October 1994.

The Chief's Corner

Harold W. Nelson

This column goes to our managing editor as we put the final touches on a "Conference on Cold War Archives" that we will be conducting for the Office of the Secretary of Defense. That event has helped focus our thinking on future projects here at the Center of Military History, and some of those thoughts about our future may be of interest.

Sharp-eyed readers of *The Army Historical Program, Fiscal Year 1994*, noted our commitment to a new U.S. Army in the Cold War series. The U.S. Army, Europe (USAREUR), played an important role for many years without actually going to war. Since the Berlin Wall came down, that role has changed dramatically, and we know historians should do all they can to produce a coherent overview of the many years of selfless Army service on the European continent. Other regions or localities may deserve similar treatment. We have written the operational history of the Korean War, but what should be written about the postwar years of service in Korea or Japan? The "Cold War" periodization is not as clear where Kim Il Sung still prevails, but the lessons we learn from attempting USAREUR volumes certainly will be applicable elsewhere.

We also know that we must write about the "Washington command post." Our predecessors who wrote about World War II could use General George C. Marshall's unique role as Army chief of staff and key adviser to presidents and heads of governments to set the political-military background against which strategic and operational developments could be described. Such volumes were never written for the Korean or Vietnam Wars, partly because the Army was immersed in a more formal joint setting, but also because the Cold War context of those wars was part of the historical continuum shaping our histories as it had shaped hostilities. Now we should encourage Army historians to ask how individual Army officers and the Army as an institution acted and were acted upon at the policy level throughout the Cold War era. The resulting studies will have no exact counterpart in the World War II "green books," but they will make an important contribution to our understanding of the past.

We may also need to extend some existing books to cover the entire Cold War. If a new edition of *From Root to McNamara* were called From Root to Goldwater-Nichols, some of us older historians might be slow to adjust, but we would all see the merit in the revision. Important organizational changes continued after Secretary Robert S. McNamara left office. While the end of the Cold War did not bring an end to such changes, it provides potential for periodization that should be considered by official historians. The case for an updated *Sinews of War* is more straightforward, not simply because the title need not change, but because the change in the world situation transformed a forward-based Army into a CONUS-based contingency force. A book written in 1953 obviously needs major revision to cover this and other important changes in Army logistics.

The Conference on Cold War Archives raises the possibility that some of these new publications might be enlightened by work in records of the former Soviet Union. Our operational and strategic histories of World War II were strengthened by our access to German and Japanese records. Some topics that we might address in the Cold War series could be similarly strengthened if we can solve the many problems of resourcing and accessibility remaining before us.

The resource problems are the most daunting. We have been reasonably successful in defending jobs for trained historians, but new projects can begin only when ongoing projects are completed. All CMH historians who are in the "quick-response" mode are overburdened as a result of continued widespread interest in the Army's history. They have no time to research or write extensive monographs, so only the historians who are already engaged in monographic work are truly available. This means that several years may pass before the new series is fully resourced, and the untimely loss of even one or two qualified people could cause additional delays.

But we know the Army's history in the period of the Cold War is important. We will continue to broaden and deepen our treatment of the period in Army museums, and eventually we will produce volumes of history that will endure as testimonials to those whwho served our nation in the Army during those years.

The U. S. Cavalry Association

Michael S. Davison

To most Americans, the term "historic preservation" brings to mind the conservation of our architectural past: Victorian ornamentation, Doric columns evoking the ethos of antebellum plantation life, the family farm or town square, framed images to remember. This is as it should be, for historic preservation is all of that. But it also is much more: tradition and culture representing life as lived by those who went before us. It is the preservation of these historical traits of nationhood that makes each of us Americans, regardless of our origins.

History, of course, can be read in the pages of books, or visualized in the displays of museums, or imagined on hallowed ground where men at war gave their lives for their beliefs. But whatever its form, history derives from preservation—the retention by someone of the recollections, the records, or the material remnants that help define the past. In the end, the preservation that makes history possible depends on us—those of us willing and able to ensure that it takes place.

It was more than three decades after the last horse-mounted trooper of the U.S. Cavalry had marched into legend that a few veterans of that service came to the realization that an important link with America's past was breaking, severed by default. No organization specifically oriented to Cavalry traditions was making an effort to preserve and protect priceless Cavalry artifacts from disappearing into private collections or—even worse—simply vanishing completely. At the time, no organized effort was being made to prevent the dispersion of irreplaceable written records beyond the reach of preservationists and historians. No one was preserving a knowledge of traditions that were being lost forever, as those who had kept them faithfully to the end passed away.

None too soon a small cadre of concerned veterans, moved by their personal memories, resolved to act. Those few were quickly joined by other caring men and women who made the cause their own. Thus was born the commitment to redeem and secure the legacy of mounted soldiers. And what a legacy that is, bequeathed by men who helped carve a new nation out of the wilderness, participated in a civil war to unify that nation, opened the West for settlement, fought in two world wars, and served valiantly in Korea and Vietnam.

Thus, 22 May 1976 may not be widely noted, but it nevertheless is a significant date for historic preservation. On that date a nonprofit organization was incorporated to collect, preserve, and display Cavalry artifacts that had been fast disappearing; to locate, maintain, and selectively reprint literature on this aspect of America's history; and to provide information and educational materials to schools and colleges and to the general public.

Today this organization, the U.S. Cavalry Association, has its headquarters in the historic setting of Fort Riley, Kansas. The association has earned its role as the principal conservator of the Cavalry tradition and as a major custodian of history and keepsakes that trace the Cavalry's progression from horse to tank and helicopter, and from saber to missile and laser. Today, the association continues to undertake responsibilities that were waiting to be assumed.

Since 1976 the U.S. Cavalry Association has come of age, with much to show for the passing years. The association has proven that it can set realistic goals and meet them, and the results achieved speak for themselves.

Whatever the association learns in probing the past, or finds in searching for the material symbols of Cavalry lore, or creates in exhibits, on film, or through the written word, it shares as widely as resources permit. The association's numerous productions give substance to this commitment, as through them it brings history to life.

This endeavor is exemplified by the association's sponsorship of the U.S. Cavalry Museum at Fort Riley, part of the U.S. Army museum system and visited by more than 75,000 people annually. As sponsor, the association has funded major renovations, provided for the acquisition of valuable artifacts for display, and assisted in developing exhibits that present the Cavalry story. In addition to supporting the U.S. Cavalry Museum, the Cavalry Association supports other Cavalry-oriented museums by providing technical assistance and artifacts.

The association's film/video, *Crossed Sabers*, is a historical treatment of the Cavalry saga from the American Revolution to the present. It is available for purchase or for loan to qualified groups and educational institutions.

One of the world's finest collections of literature on Cavalry history and techniques, including horsemanship and horsemastership, was in the library of the old Cavalry School at Fort Riley. With the school and its library long gone, the association is proceeding with developing the U.S. Cavalry Memorial Research Library to fill the need for a primary repository of Cavalry literature and related materials. In support of this project, the association intends to develop a comprehensive Cavalry bibliography.

The U.S. Cavalry Association has created its computer-based BIOCAV program for the benefit of historians, genealogists, and others interested in biography. This is an ongoing one-of-a-kind data bank of biographical information on members of the Cavalry of all periods and ranks. Far from completed, it is being constructed slowly but steadily as information is submitted.

The association publishes a quarterly periodical, *The Cavalry Journal*, to provide its members with information on association activities, Cavalry units' news, and scheduled reunions. The journal also features historical articles on Cavalry units and personalities and carries appropriate book reviews (*Editor's note:* The Cavalry Journal *should not be confused with the old* Cavalry Journal, *which later became* The Armored Cavalry Journal, *and today is* Armor).

The foregoing description of the Cavalry Association's principal activities, although necessarily brief, should suffice to indicate the association's goals and the aspirations of its members. The association is organized of people who care enough about the heritage of the Cavalry to volunteer and to contribute. Theirs is but a small part of the historical mosaic that is America's odyssey. But it is an important part, worth preserving, and worthy of all the effort they can give it.

Those individuals desiring further information can write to the U.S. Cavalry Association, P.O. Box 2325, Fort Riley, Kansas 66442-0325, or phone (913) 784-5797.

General Michael S. Davison, U.S. Army (Ret.), is a strong supporter of the U.S. Cavalry's rich heritage.

Coast Defense Study Group Annual Meeting Set

The Coast Defense Study Group (CDSG), founded at Fort Monroe, Virginia, is a not-for-profit association dedicated to the study of seacoast fortifications, primarily but not exclusively those of the United States. The study of these coastal defenses includes history, architecture, technology, strategic and tactical employment, personnel, and evolution.

The Coast Defense Study Group conducts an annual conference at various coastal defense installations. Past meetings have been held to visit the harbor defenses of New York (1984), Chesapeake Bay (1985), Portland, Maine (1986), San Francisco (1987), Boston (1988), Galveston (1989), Baltimore/Washington (1990), Narragansett Bay (1991), Los Angeles/San Diego (1992), and Cape Fear, North Carolina (1993).

This year's CDSG meeting has been set for 20-23 October 1994 at Gulf Shores, Alabama, to examine Mobile Bay/Pensacola sites. The conference planners envision visits to Fort Pickens on Santa Rosa Island, Fort Barrancas, Fort McRee, Fort Gaines, and Fort Morgan. Tours to visit the battleship *Alabama* can also be arranged. In addition to the fortification tours, there will be a variety of evening presentations, and a business meeting.

Readers who are interested in the 1994 conference or in membership in the Coast Defense Study Group can write for additional information to:

COAST DEFENSE STUDY GROUP
c/o Elliot L. Deutsch
731 Baltimore Pike
Bel Air, Maryland 21014

Historical Work During World War II

Stetson Conn

(Part three of three parts)

Under prodding from the American Council on Education, in the spring of 1944 the Army undertook an extensive historical coverage of its educational and training activities. While the bulk of this work was to be done in the major commands under the supervision of the Historical Branch, the Secretary of War directed that the branch itself prepare an overall "elaborate study of the Army's training program and methods" to include General Staff supervision through G-3 as well as a synthesis of activities within the commands. Fortunately the branch had a very good man to assign to this project, Capt. Elmer Ellis, a professor of history and future president of the University of Missouri. After Ellis returned to teaching in early 1945 the training history became the responsibility of two lieutenants, Dr. Boyd C. Shafer, later Executive Secretary of the American Historical Association, and Dr. H. Fabian Underhill, a teacher at Indiana University. It took such talents to handle the constant and sometimes difficult cooperation with the American Council on Education representatives that the project required, as well as to put together a history of the Army's tremendously variegated training and educational activities. The work that was completed by 1947 would have made a stout volume in print, but it was never published. In fact the Army never did succeed in producing a general history of training considered acceptable for inclusion in the official history of World War II.

It was apparently a young Negro historian, Dr. John Hope Franklin, who stirred the Army toward recording the World War II military experience of America's largest racial minority. On 23 February 1944 Assistant Secretary of War [John J.] McCloy recommended that the Historical Branch prepare a "factual study and history of Negro participation in the current conflict." He believed such a history would be of great value to future Army planners. Although acknowledging its potential importance, [John M.] Kemper and [Livy] Wright were reluctant to tackle such a study because of its sensitivity. They soon discovered they had no choice, although Mr. McCloy's executive (a personal friend of Kemper's) did point out that the branch "could move as slowly as desirable to lessen the risk" of stirring up antagonism among either whites or Negroes until the fighting was over. In 1944 and 1945 the Chief Historian assumed responsibility for collecting materials on the subject, working in friendly cooperation with the Civilian Aide to the Secretary of War. Dr. Wright discovered that among Negroes themselves there was a sharp conflict of opinion over the desirability of a separate treatment of their role in the Army. Initially it was hoped to feed the material relating to Negro participation into other branch projects to obtain a balanced and impartial picture. It was with this objective in view that, at the end of 1945, the branch sought the services of another young Negro scholar, Capt. Ulysses Grant Lee, Jr., to guide the work.

During World War II Army policies required the rotation of officers to and from overseas duty. In consequence, in February 1945 Colonel Kemper left to assume a command in Italy and Lt. Col. Allen F. Clark, Jr., was assigned as Chief of the Historical Branch in his place. Two years older than Kemper, Clark came to the branch from duty as an engineer combat group commander on the Italian front. After graduating from the Military Academy he had taken a civil engineering degree at Princeton. Subsequently he taught military engineering and history at West Point for four years and there became well acquainted with Colonel Kemper. As it happened, Kemper would return to the historical office before the end of 1945, and during the ensuing two and a half years he and Clark did yeoman work in establishing the office on a solid postwar footing.

It will be recalled that one of the major objectives of the Historical Branch from its beginning had been a popular history to be published as soon as possible after the fighting was over, and that in June 1944 Col. S.L.A. Marshall had been formally designated "Popular Historian." His transfer to the European Theater left the project unassigned, and one of Colonel Clark's first actions as chief was to seek a new author for the popular history. After Douglas S. Freeman declined, Clark and his colleagues chose Sewell Tyng, by profession a lawyer and mining engineer, but by avocation a military historian of note. The West Point history staff had considered outstanding his *Campaign of the Marne, 1914*, published in 1935. Tyng, who had been on the

branch's books as a consultant in 1944, on 3 April 1945 eagerly agreed to accept the assignment. The plan that evolved by the end of June contemplated a two-volume work on strategic planning and execution of Army operations in Europe and the Pacific. The European volume was to be prepared first and to be ready for publication by 1 January 1946 or as soon thereafter as possible. The author would receive all necessary access to records, help in visiting overseas and interviewing combat leaders, and research assistance. He would be given authorship credit on the title page, but no other recompense beyond expenses. After clearing and editing the manuscript, the branch would turn it over to a commercial publisher, hoping for an initial run of 100,000 copies, with little or no profit to the publisher. The text would be of modest length, with relatively profuse cartographic and photographic illustration.

The plan for the popular history received firm backing from the G-2, Mr. McCloy, and, on the publishing angle, from the Judge Advocate General, but it ran into strong opposition from the Operations (OPD) and Personnel Divisions (G-1). Operations adamantly opposed commercial publication, authorship credit, and allowing an outsider like Tyng access to its records. The impasse was broken only after Dr. [James Phinney] Baxter was persuaded to intervene with Mr. McCloy, who took the matter up in a War Council meeting and secured the approval of Secretary [Henry L.] Stimson and General [George C.] Marshall to going ahead with the plan as proposed. A formal letter of 22 June to Tyng cleared the way for action. Before he began to write, Tyng felt that he needed to visit the European and Mediterranean combat areas to examine the terrain and interview leaders. The Army Air Forces provided him with a special plane complete with jeep for a five-week overseas tour in August and September. Thereafter, working mostly in New York, by the end of 1945 he completed drafts of about a third of the chapters planned for the European volume. His work then ceased as his health rapidly declined. Tyng died in May 1946 and the historical office decided to cancel the project, partly on the ground that the Supreme Commander's Dispatch on operations in Europe then being published would summarize "in fairly good fashion" the ground the popular history was intended to cover. By then also, the branch was concentrating on carrying out the plan for the official history of the war.

The fight over the popular history nevertheless had its significant aspects. For the first time the Historical Branch had "flexed its muscles" and invoked higher authority on matters of principle, and had "put it over in spite of the opposition," as Colonel Clark commented later. It had established the principle of proper authorship credit in Army historical publications, in contrast to the practice of anonymity that had become the fashion. It won access as necessary to all relevant records, within the bounds of true national security. It won legal approval of at least one plan for commercial publication, in place of the customary use of the Government Printing Office. And for the first time since its establishment, the branch had invoked the aid of the Historical Advisory Committee and its potent chairman to win topside support.

The German collapse and surrender in May 1945 brought a number of high ranking German officials into the hands of the American Army. Prompted by his historian, the Under Secretary of War proposed that the Historical Branch organize a small group of experts to go to Europe and interview these men on all sorts of questions related to the German war effort. With some difficulty the branch enlisted a five-man team headed by Dr. George N. Shuster, President of Hunter College, and including Lt. Col. Oron J. Hale of the G-2 staff, in civilian life a professor of history at the University of Virginia. After Colonel Clark tried unsuccessfully to get Colonel Kemper assigned to handle interrogations on military matters, Maj. (and future Congressman) Kenneth W. Hechler of the Army's European Theater historical office took on that responsibility. The team stayed in Europe about three months, and during its visit Shuster came under sharp attack from fringe groups advocating a hard line with Germany and the Germans. Much of the work of the Shuster mission turned out to be of questionable value. Colonel Clark later called it a boondoggle. But Major Hechler's participation marked the beginning of a much larger use of senior German officer prisoners of war in the Army's postwar historical work in occupied Germany, work that would be of prime importance to the official history to be undertaken in the months and years to come.

As the fighting in Germany ended, Army manuscript histories from around the world poured into the Historical Branch. Two weeks before the German surrender the branch had distributed a list of some 600 titles of works that had been in preparation or projected at the beginning of 1945. Existing directives required the branch to review histories only if prepared for publication; but in order to establish better control of the quality of works being produced officially throughout the Army, it began in the summer of 1945 to review

all manuscripts coming in. In September the War Department made it mandatory for Army historical agencies to send their completed products to the branch for review. A separate Review Section was established to handle this work, headed by Colonel Hale after his return from Europe.

With world-wide victory in sight in July 1945, President Harry S. Truman urged all Federal agencies to bring their administrative histories "to a current basis during 1945" in order to complete them as soon as possible after the war was over. After Japan surrendered, the Historical Branch suddenly found itself required to send directives to all military elements of Army headquarters and to overseas commands instructing them to begin or expedite narrative accounts of their administrative experiences during the war and otherwise prescribing what they should do to bring their wartime historical work to a fruitful termination. The implication of these directives of course was that the Army as well as other Federal agencies would be sharply reduced in strength as soon as wartime tasks were completed. But it had been intended from the beginning that the Historical Branch should perform its major role after the fighting was over. As its chief later put it, V-J Day marked the transition of the branch "from an agency primarily concerned with the preservation of records and other historical material to an agency charged with the responsibility of reducing those records of the war to a more usable form and disseminating them to the Army, to the schools, and to the general public." To accomplish this mission the branch would need a larger staff and a stronger position in Army headquarters.

In the spring of 1945 the Historical Branch had an actual strength of fifteen officers, twenty-six civilians, and five enlisted employees, the total of forty-six being about equal to that of the Historical Section, Army War College. The branch's authorized strength of fifty-six included five temporary officer positions for trainees for overseas, a category that was about to become unnecessary. In May difficulties in recruiting qualified civilian professionals led the branch, with G-2 backing, to seek a permanent increase in officer strength to handle its growing review load and the anticipated inflow of operational monographs for editing and publication. Instead, a rather cursory survey of the branch by representatives of the War Department Manpower Board was followed by a recommendation to reduce its authorized strength to the number then actually employed. This recommendation was approved by the Chief of Staff's office on 2 July. The action took scant account of the fact that definitive historical work can only be done after a war and not during it. While preparing a rebuttal, Colonel Clark discovered that G-2 had accepted the reduction without protest and without consulting his branch. Earlier, and two days before Clark learned about the new barrier to increased strength, he and Dr. Wright had decided the time had come "to start feeling out higher authority on a more permanent and higher level" in the War Department hierarchy for the branch. The manpower problem, and another discovery that G-2 was planning to put the branch into its Military Intelligence Service after the war, naturally strengthened this resolve.

With regard to manpower, the Deputy G-2, with the approval of General Bissell, made amends by giving strong backing to an appeal of 10 August that the Historical Branch be given a personnel ceiling of fifty-eight, including nineteen officers and thirty-nine civilian employees and enlisted men. This recommendation for a modest increase rather than a reduction in personnel strength was sent first to the Assistant Secretary of War's office for concurrence. There it received such firm backing from McCloy as practically to assure affirmative action by the Chief of Staff's office. As for the branch's organizational position in the War Department, as stated earlier in 1943 the new history office had been put into G-2 as a wartime expedient, and not because there was any real affinity between the historical and intelligence functions. At the beginning of 1945, Colonel Kemper had suggested locating the branch in peacetime in the Secretary of War's office. In early July an informal conference between representatives of the branch and of the older Historical Section revealed that the section, which for some time past had been reporting directly to the Army's Deputy Chief of Staff, was technically a notch higher in the War Department structure than the branch was under G-2. The conference also reached agreement that the Historical Section's work had no connection with the operations of the Army War College, that the Army's current division of historical functions in its headquarters was unnatural, and that the two offices should eventually be combined into a historical division at the War Department Special Staff level.

After V-J Day, and before learning about the impending favorable outcome of the manpower appeal, Colonel Clark decided to seek the support of the Historical Advisory Committee on both the manpower and organizational questions. Following its meeting on 21 August 1945, the committee sent McCloy a report urging that the Historical Branch be given greater

In Memoriam

Army History notes with sadness the loss of two of our colleagues in the Army's historical community. Frank Pew and Carl Cannon both passed away on 31 March of this year.

Frank W. Pew was the deputy chief historian at U.S. Army Forces Command (FORSCOM) when he retired in October 1993 with 45 years of federal service. He began his Army career as an infantryman with the 84th Infantry Division in April 1943. He remained on active duty after the war, transferring to the Transportation Corps and serving with the occupation forces in Austria and later in Korea. He retired as a major in 1963. He earned a master's degree in history from Tulane and taught at the college level before becoming an Army historian. He arrived at FORSCOM headquarters in 1974. During his tenure at Forces Command, Frank prepared the annual history and numerous staff studies and monographs.

Carl Franklin Cannon, Jr., had retired as Command Historian, U.S. Army Transportation Center and School, Fort Eustis, Virginia. He became the Transportation Center historian in March 1984, having previously served as director for the Groninger Library, Fort Eustis, and the Fort Story Post Library. He had also served as a librarian for the Armed Forces Staff College and Newport News Shipbuilding and in several positions related to history and museum activities, including two years as director of the Greensboro Historical Museum, Greensboro, North Carolina. During his tenure at Fort Eustis, Carl was noted for his extensive work with the history of Mulberry Island (where the Fort Eustis is located), the post, and Fort Story. He retired from the Transportation Center in November 1990.

Both of our colleagues will be greatly missed.

A.G. Fisch, Jr.

strength to handle its rapidly increasing workload. In doing so, the report emphasized the fundamental difference between the historical function and about every other War Department activity in terms of the volume of postwar work. It then went on to recommend that consideration be given to relocating the Historical Branch either by making it a section of the Special Staff or a separate branch under the General Staff's secretariat, preferably the latter. Finally it recommended, with no recorded objection from General [Oliver L.] Spaulding [Jr.], the transfer to the Historical Branch of the functions and personnel of the War College's Historical Section. This report, with a covering summary sheet signed by Dr. Baxter and marked for General Marshall's consideration after the Assistant Secretary had seen it, was hand carried to Mr. McCloy by Dr. Baxter. Baxter orally requested assignment of a general officer to head the relocated office, as had been recommended in 1943. He later recalled that McCloy responded that major generals were about to become very plentiful, and also that "he could understand our wish to get out from under G-2 lest they put an undue number of their personnel cuts on the historians." Forwarding the committee's report and recommendations to General Marshall, McCloy stated that they had his full endorsement. He urged particularly considering the branch's personnel needs separately from those of the rest of Army headquarters. Without comment the Chief of Staff's office asked G-2 to draft a reply to the Committee's report for Mr. McCloy's signature.

The G-2, [Maj.] Gen. [Clayton] Bissell, had already received a copy of the Advisory Committee's report directly from Colonel Clark as an attachment to a comprehensive study Clark had prepared on postwar historical matters. On 10 September 1945, Bissell called Clark in and in effect rebuked him for acting, as a member of the Advisory Committee, in a manner that was disloyal to his military superior. A day or two later, when the referral from General Marshall's office reached him, General Bissell was furious. After sessions with Clark and Baxter, the G-2 drafted a reply for

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Mr. McCloy's signature assuring the Advisory Committee that the manpower needs of the Historical Branch would be met, but urging that the Committee's other recommendations be reconsidered. Bissell also moved to supplant Colonel Clark as branch chief. He asked the Mediterranean Theater to release Colonel Kemper so that he could again head the historical program in Washington.

In the meantime, on 31 August 1945, General Spaulding had again retired from active duty. His successor, Col. Clarence C. Benson, mounted a counterattack against the proposed absorption of his section by the Historical Branch. He proposed enactment of legislation to establish an "American Battle Monuments and History Commission" to coordinate the entire armed forces historical program. Pending that action, he urged consolidating all Army historical work under the Chief, Historical Section, Army War College. He also recommended publishing the World War II records before undertaking an official narrative history, and he made no effort to conceal his desire to kill the latter project. The War Department rejected his proposals, Colonel Clark actually drafting the rebuttal. Benson then turned to General Dwight D. Eisenhower, still in Europe but slated to become Chief of Staff, to enlist his support; and Eisenhower gave it, agreeing in a letter of 12 october that the War Department's World War II historical office should be confined to the collection, arrangement, and publication of records, and that "by no means should it attempt now to write the history." Colonel Benson, of course, was delighted, and proceeded to circulate copies of the pertinent passages of Eisenhower's letter.

The letter came too late to have any significant effect. On a visit to Mr. McCloy on 19 September, Dr. Baxter learned that the Assistant Secretary's office was working on a revised plan for relocating the historical function. Matters might have come to a head more quickly had not McCloy soon thereafter embarked on a trip around the world. On 24 October 1945, a week or more before he returned, the Advisory Committee (less General Spaulding) met again and redrafted its August recommendations in terms designed to soothe the wounded feelings of General Bissell. Except for the omission of any reference to the Historical Section, Army War College, it did not alter their basic character. The committee also endorsed plans drafted by the Historical Branch during October for a multi-volume official history, but left their formal presentation for approval for separate action through military channels. What it now recommended was continued special consideration of the manpower needed to perform the historical function, and establishment of a new "top level historical agency" in the War Department under which the Historical Section and all other Army historical offices would function, to be headed by a general officer and ideally to be located in the Office of the Secretary of War or, as a second choice, in the Office of the Assistant Secretary. If neither were practicable, establishing it as a separate division of the War Department Special Staff would be a "satisfactory alternative." Knowing that Mr. McCloy would approve the recommendations, his office immediately forwarded them to the new Secretary of War, Mr. [Robert P.] Patterson. Patterson's executive officer and his historian, Troyer Anderson, endorsed them enthusiastically. By 26 October the secretary had given them his informal approval, indicating that he preferred that the historical agency become a Special Staff division. This status seems by this time also to have become the preference of the Historical Branch itself.

When word of the impending establishment of a new historical agency reached Major [Harvey A.] DeWeerd in the Operations Division, he sounded out Maj. Gen. Edwin F. Harding, then Chief of the Historical Office of the Joint Chiefs of Staff, and discovered that he might be interested in becoming head of the new Army office if it were made a Special Staff division. General Harding had commanded the 32d Division in New Guinea. His varied career as an infantryman also included nearly a decade of instructing at West Point and the Infantry School. For several years he was editor of the *Infantry Journal*. At DeWeerd's suggestion Colonel Clark prepared a detailed analysis of the background and status of the Historical Branch for General Harding, and on 30 October 1945 spent three hours with him discussing the branch and its work. The next day Harding and DeWeerd visited the branch, lunched with its senior members, and prophetically, with Col. [Kent Roberts] Greenfield of the Army Ground Forces. All were enthusiastic about Harding as a prospective leader. Clark passed this sentiment on to Dr. Baxter who relayed it to Mr. McCloy's office. Thus, when the Assistant Secretary returned from his trip, he found with the papers relating to the proposed new historical office a note recommending General Harding to head it.

The final steps in establishing the Army's new central historical office followed almost automatically. On or before 2 November 1945, Dr. Baxter called on Mr. McCloy and learned he was about to

initiate formal action creating a new Special Staff historical division with General Harding as its director. Only after he was thus assured did Dr. Baxter send a letter through Colonel Clark to General Bissell, enclosing a copy of the Advisory Committee's most recent report. The letter was, in effect, a diplomatic notification of the parting soon to come and an expression of the Advisory Committee's appreciation for the good support that G-2 had given the historical function during the war. This communication reached G-2 while General Bissell was away on a trip to South America and his deputy accepted the situation with equanimity. The action to create the new historical office never did go through military channels. On 9 November, after receiving Mr. McCloy's formal recommendation, Secretary of War Patterson approved the establishment of a separate Special Staff agency to handle the historical function. The agency would report directly to the Deputy Chief of Staff and exercise staff supervision over all Army history work. Patterson directed the Chief of Staff to transfer the Historical Branch, G-2, to it. He also asked the Chief of Staff to appoint General Harding as director of the new office, and Harding was so appointed on 14 November. The formal announcement of the creation of the Historical Division, Special Staff, and the transfer to it of the "functions, records, personnel, office space, and equipment" of the Historical Branch, came three days later.

General Eisenhower succeeded General Marshall as Chief of Staff just two days after the foregoing. At General Harding's suggestion Mr. McCloy sent the new chief a friendly note expressing his own great interest in the Army's historical work and the hope that Eisenhower would keep his eyes on it, adding that "we haven't many results to show after the last war, and I think, after the effort made in this war, the country deserves good material."

Fortunately for the cause of history, Eisenhower would completely reverse the position he had recently taken and become one of the strongest supporters of the Army's historical series on World War II that was about to be launched.

The above reprinted account is our third and last installment from Chapter 4 of Dr. Stetson Conn's Historical Work in the United States Army, 1862-1954. *In the next issue of* Army History *we will offer the first of three installments of Chapter 5, Launching "The United States Army in World War II."*

Kilroy Was Here

Tim O'Gorman

Wherever the United States fought in World War II and wherever GIs spent their time, the peering cartoon image of Kilroy with the graffiti "Kilroy Was Here" marked their presence. Kilroy, with his long, pathetic nose hanging over the wall with two peering eyes above it, was everywhere, and his ability to pop up in the strangest and most unlikely places was legendary. The Army, it seemed, could never get ahead of Kilroy—he was always there first. The GIs who stormed the Siegfried Line found Kilroy waiting for them. He appeared in just-cleared bunkers, still reeking of battle, on South Pacific islands. James Jones, recalling his days as a GI in the Pacific, noted that every soldier knew what Kilroy meant. If something bad happened, Kilroy was to blame. If something good, Kilroy got no credit. He was always on the outside looking in, never a participant.

Although every GI knew what Kilroy meant, no one could say exactly where he came from. One story had it that Kilroy was a shipyard inspector whose inspection marks were the words "Kilroy Was Here," and the phrase caught the fancy of GIs aboard troopships. Some held that Kilroy originated with the Air Transport Command, one of the first commands to deploy worldwide. In every combat theater, in every latrine at every training camp, in every ruined building, it seemed Kilroy had been there.

If the origins of Kilroy are lost, who he was is no

mystery; he was the American GI. Unlike the popular Sad Sack and Willie and Joe cartoon characters whose experiences reflected the GIs' and who looked like soldiers, Kilroy was more elusive, appearing not in newspapers and books, but on everything and everywhere. He was the GI's own creation and statement—Kilroy Was Here.

During World War II the Army reached a peak strength of some 8.5 million men and women. Over 7 million were men drafted for the duration plus six months. If the GI had not volunteered for the Army (most volunteers went to the Navy or Army Air Corps) he had endured the suspense of waiting for his draft notification, had been examined and questioned, had undergone 8 to 17 weeks of basic training in one of 245 training centers scattered throughout the country but mostly in the South, and had received additional training sometimes lasting up to a year with his unit of assignment. If he was African-American, he faced enforced segregation more stringent than he had encountered as a civilian and stood a better chance of being assigned to a service unit than to a combat outfit. The GI was paid $21 per month in 1942 but by the end of the war was receiving about $71. His average age was 26, and he had finished at least one year of high school. He was most likely single (two-thirds were), but by 1944 the chance that he was married would be 50-50, as the draft dug deeper into the manpower pool.

The average soldier, for the first time in history, found women joining him in the ranks. Women were all volunteers and most chose the WACs (Women's Army Corps), the largest of the women's uniformed services, numbering over 150,000 during the war. The standards for WACs were high. The average WAC was 26 years old, single, a high school graduate, and with some clerical experience. She scored in the high average range on her Army aptitude tests. She first was met with suspicion by her fellow soldiers and by civilians concerned about the possibility of loose morals among women in uniform. It turned out that the venereal disease rate for WACs was almost nil and the pregnancy rate was 20 percent that of civilian women. Women rather quickly demonstrated that they made excellent and useful soldiers. By 1943 WACs were performing over 155 military tasks in fields such as clerical, transportation, supply, communications, and radio/electronics.

The GI's conversion from civilian to military life was most obvious by his uniform. Often ill fitting, the uniform was designed for both dress and combat wear, although as a practical matter the GI adopted what the Army had intended to be a fatigue uniform for combat. For some, the uniform was a step up from what they had worn as civilians.

The GI survived on the Army's rations: A, B, K, and C "rats," containing 3,100 to 4,300 calories per day, and whatever else he could scrounge or buy from local citizens at home or abroad. GIs were lavishly plied with cigarettes. They were issued a pack a day in addition to the small 4-pack included in each K-ration. During the war GIs consumed 10 billion bottles of Coca-Cola.

Compared to the doughboys who marched off to World War I, the GI seldom voiced his enthusiasm about the war. He did not spout patriotic slogans—he found them embarrassing. GI audiences jeered and laughed at war movies made for homefront consumption. Flag waving was not the GI style. "Why We Fight" indoctrinations had little effect on the GI.

But the GI was not shy about voicing his complaints. Food was lousy, uniform regulations were "chicken____." Too many rules were made by the brass hats. The Army was a SNAFU (situation normal, all fouled up) organization. A civilian in uniform, he was in the Army but not of it.

The GI spent an average of 33 months in the service and, if he was among the 73 percent of the GIs and 5 percent of the WACs shipped out, served on average more than 16 months overseas. If he served in a combat unit, he represented one-fifth to one-fourth of the Army. For every man engaged in combat, there were three others providing him support. His chances of surviving combat were good—8.6 of every 1,000 were killed, while 17.7 received a nonfatal wound. Even so, more than 234,000 GIs died during the war, and 565,800 were wounded. Whatever his role, the GI's thoughts were focused on surviving the war, getting the job done, and going home.

GI humor distinguished the American soldier from his allies. He took his job seriously, but not himself. The Great Depression from which he sprang did not completely erase his ingrained American optimism about the future or lead him to a deep cynicism. Humor had been a survival tactic through hard times at home, and it served the GI during the war. And if he could laugh at himself, Kilroy was there to laugh with him, the inquisitive and bewildered spectator to this most recent of man's follies.

Kilroy was the World War II GI's creation, reflecting the nature of America's citizen-soldier Army. When veterans of the war reunite to share bygone days and camaraderie, the years melt away; their tragedies,

successes, families, their whole civilian interim existence takes second place to the time when "we were there!" Kilroy, forever on the outside looking in, is there with them.

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"Kilroy Was Here," a World War II commemorative exhibit, opened at the Air Defense Artillery Museum, Fort Bliss, Texas, in December 1993 and will run until June 1994. The exhibit will focus on the common GI experience of World War II, symbolized by the graffiti character, Kilroy. "Kilroy" is the seventh in a series of World War II commemorative exhibits sponsored by the Museums Division, DPTMS (Directorate of Personnel Training, Mobilization, and Security), Fort Bliss, Texas.

Mr. Tim O'Gorman, formerly curator of the U.S. Army Air Defense Artillery Museum, Fort Bliss, Texas, is the director of the U.S. Army Quartermaster Museum, Fort Lee, Virginia.

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Western Front Association and the Great War Society Joint Conference Set

The Western Front Association and the Great War Society will hold their fourth annual joint conference at the First Division Museum at Cantigny in Wheaton, Illinois, 16-18 September 1994.

Sessions and presentations will be held at the Hilton Hotel in Lisle, Illinois, with side trips to the First Division Museum.

For further details on the conferemce, contact Ken Finland, PO Box 604, Bloomfield Hills, MI 48303. Phone: (810) 642-8436, or FAX (810) 332-9479.

Dr. John F. Votaw, Executive Director
Cantigny First Division Foundation
1 S. 151 Winfield Road
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Adapting the Staff Ride at the 143d Transportation Command for U.S. Army Reserve Troop Program Units

Lee Plummer

We hear frequently that the Army Reserve does not have the time for "nice to do" things. When we realize that the reserve unit commander has less than 40 days to accomplish what his active component counterpart has 365 days to achieve, it becomes apparent why only the most essential training can be accomplished. Unlike the active component, the U.S. Army Reserve does not have an opportunity to devote an extensive block of time to a staff ride in the conventional format. Annual training is the only extended period available, and it is reserved for mission training. Therefore, to accomplish the staff training and promote the "historical mindedness" that differentiates the professional from the amateur, some adjustments must occur. During the period April 1992-June 1993, two units under the 143d Transportation Command adapted the staff ride technique to their restrictive schedules. The two commanders knew that their plate was full, but they also realized that some of their training objectives could best be accomplished through the study of military history. The problem was getting started.

Defining the Objective

The first step is common to both active and reserve component commanders—selecting a staff ride that contributes to the training objectives for the year. Almost any battlefield will demonstrate some principle of war, but staff roles, the importance of unit mission, or the mechanics of mobilization are not all demonstrable at all battle sites. In some cases, the location nearest the reserve unit may fulfill some other purpose besides being a historic site. Recreation departments may use a site for living history programs, which are extremely beneficial to the study of history but may lend nothing to the study of military art and science. The commander of the 416th Transportation Battalion, a railway unit, selected the Olustee, Florida, site of the Battle of Ocean Pond, as it is known. The commander of the 1159th Transportation Detachment, a contract supervision team, chose the Spanish-American War embarkation from Tampa, Florida. These events fit the respective training goals of the units and met the geographical restriction of completing the requisite travel and the terrain walk in one day.

Gathering Resources and the Preliminary Study Phase

The staff ride consists of three phases: preliminary study, field study, and integration. Locating resources in sufficient quantity for the preliminary study phase was an obstacle to overcome, since neither the 143d Transportation Command nor its subordinate units had funding for staff ride materials. The plans officer in the Security, Plans, and Operations Section of the 143d Transportation Command (a full-time position) also serves as command historian. One of the first items acquired was *The Staff Ride* (CMH Pub 70-21). Battle-specific items such as mini-biographies of the commanders, battle sketch maps, order of battle information, etc. were also acquired. Not all reserve component units are located on or near an installation and, therefore, do not have the resource of a post library or museum. The command historian, however, obtained materials by contacting branch school historians, the Center of Military History, and the Military History Institute. Local historical societies were contacted with varying degrees of success in finding useful material. One unit member who was principal of a local high school received some assistance from one of his history teachers. A period map was obtained at no cost from the U.S. Geological Survey.

For the preliminary study phase topics were split into segments presentable in fifteen- to sixty-minute increments. Although a large amount of time is not available, units are able to devote fifteen to sixty minutes to a discussion sometime during a weekend inactive duty training (IDT) period.

Late in the Civil War, Florida was an important source of food—especially beef—for the Confederate forces. The Florida and Georgia railroads did not meet, and the Confederates began to build a connecting line. The Union department commander was aware of this effort and was determined to stop it by destroying a key railway bridge needed to link the railways. The battle was joined near Olustee, Florida, and the Confederates successfully defended the bridge. Lt. Col. Mike Swart, commander of the 416th Transportation Battalion, saw this battle as an opportunity to demonstrate to his staff the importance of rail in resupplying large armies and

to conduct training for various staff officer roles. Very little preliminary study was available. Even the ride from the reserve center to the battlefield was spent discussing more pressing matters. Still, the assistant operations officer of the 416th (another full-time position) and the command historian of the 143d Transportation Command were able to locate and make available several items for individual study prior to the field study phase. The tight schedule obliged the staff members to read these materials during nonduty times. The 416th Transportation Battalion assistant operations officer made a reconnaissance to verify the suitability and availability of the site, as well as the feasibility of completing the trip in one day.

During the Spanish-American War, Tampa, Florida, was selected as the embarkation point of a relatively small reconnaissance-in-force effort to Cuba. However, Tampa mushroomed into a staging area for tens of thousands of regulars and volunteers who were short of everything from foodstuffs to uniforms—even the wagons to haul the needed material were in short supply. The Quartermaster General entered into a number of contracts to meet the most critical shortages. Lt. Col. Richard Dawson, commander of the 1159th Transportation Detachment, elected to use this form of activity—rather than a battle—to illustrate the contracts his unit would have to accomplish in support of housing, feeding, clothing, and transporting large numbers of men. Once again, the 143d Transportation Command historian was responsible for providing many of the materials for this unusual staff ride.

For eight months Colonel Dawson provided approximately sixty minutes during each IDT period for the historical exercise. Colonel Dawson, his contracting officer, and some of the enlisted personnel led the discussions. The 143d Transportation Command historian gave an overview of the Spanish-American War, placing the Tampa embarkation in context. In addition to studying the circumstances surrounding the Spanish-American War, the discussion leaders drew parallels to DESERT SHIELD/DESERT STORM.

The Field Study Phase

Colonel Swart, through connections at his place of civilian employment, located an expert of the Battle of Olustee. This volunteer provided commentary on the sequence of events during the field study phase. The civilian historian and the command historian jointly presented an overview of the Civil War and placed the battle in context. The command historian described the principles of war, provided comparisons to AirLand Battle doctrine, and elicited participation from various staff members. That discussion compared the current roles of the participants on the battalion staff with the respective roles of their counterparts on the battlefield visited. The field study phase in Tampa for the 1159th Transportation Detachment similarly involved a local volunteer civilian military historian.

The Integration Phase

For the 416th Transportation Battalion, the integration phase was directed by the Command Historian, 143d Transportation Command, on the battlefield immediately after the terrain walk. In addition to the guidelines set forth in *The Staff Ride*, the historian applied the principles of the after-action review from AR 11-33. This type of immediate feedback has clear advantages. Some of the participants had questions for the volunteer civilian historian—who would not be available during their next IDT period. Moreover, the battlefield was still fresh in the minds of the participants, eliciting valuable thoughts and insights that would surely have been lost by the next IDT a month later.

For the 1159th Transportation Detachment, the integration phase included an immediate on-site session to take advantage of the volunteer historian and the immediacy of the embarkation. The unit commander then conducted a follow-on session during the next drill period to view the collective experience after thirty days' reflection.

Assessment

Following the experiences of the transportation units, it became clear to all that reserve units *can* accomplish a staff ride. Moreover, the value to the staff became evident almost immediately. The experiences were positive for both units, but the 1159th Transportation Detachment, with the longer and more in-depth preliminary study phase and more elaborate integration phase, apparently benefited more.

The value of having at the 143d Transportation Command an individual with the ability to perform command historian functions cannot be overstated. The interest and ability to fit the unit's training objectives by selecting from the myriad battlefield experiences require a soldier with "historical mindedness." There are many resource materials available, but not all are equally useful. Moreover, the staff ride leader must be aware of the need to respect copyrights. To ensure success of any reserve unit staff ride, the full-time support staff must accomplish most of the coordination

before the staff ride begins. This means that in units where these are no full-time personnel, the process may be difficult enough to dissuade the unit commander from attempting the staff ride. In the case of the 1159th Transportation Detachment (with no full-time individuals), the staff ride probably would not have been feasible without the assistance of Headquarters and Headquarters Company, 143d Transportation Command.

Maj. Lee Plummer, USAR, holds a master's degree from Mankato State University. Formerly a military history instructor at the military history course, Fort Leavenworth, Kansas, and command historian, 143d Transportation Command, Major Plummer currently is an adjunct professor of military history at American Military University.

Maj. Gen. Hugh J. Casey's Memoirs Available

Engineer Memoirs: Major General Hugh J. Casey, U.S. Army, the seventh publication in the Engineer Memoirs series of career interviews, is now available from the Office of History, U.S. Army Corps of Engineers. General Casey's interview is the second with a distinguished World War II Corps of Engineer general. Dr. John T. Greenwood conducted the interview, based on a series of conversations in September 1979. General Casey thoroughly reviewed the manuscript before his death in August 1981. Dr. Barry Fowle and Ms. Marilyn Hunter edited and prepared the interview for publication.

TRADOC Military History Workshop Conducted

The eleventh annual U.S. Army Training and Doctrine Command (TRADOC) Military History Workshop convened 18 January 1994 for four days at Fort Monroe, Virginia. Maj. Gen. John P. Herrling, Deputy Commander and Chief of Staff, TRADOC, welcomed the group in his opening remarks. Brig. Gen. Harold Nelson, Chief of Military History, and Dr. David Armstrong (Brig. Gen., Ret.), Director of Joint History, Joint Chiefs of Staff, were among those giving presentations. Other speakers addressed Operation RESTORE HOPE and the activities of historians collecting information and documents about operations in Somalia. Additional discussions and presentations focused on the Military History Education Program (MHEP), and an entire day was devoted to a TRADOC-led staff ride to the Yorktown battlefield.

For additional information on TRADOC's Military History Workshops, contact the TRADOC History Office at Fort Monroe, Va., (804) 727-3525/3781 or DSN 680-3525/3781.

1994 Chemical Corps Annual Writing Competition Announced

The theme this year will be "The Chemical Corps: Preparing for the Twenty-First Century." This competition is open to military of all branches and services, including allied nations, and to civilians of any nationality. Entries should be 500 to 2,500 words in length, supported by appropriate footnotes, bibliography, and graphics. Manuscripts should be double spaced and accompanied by a cover sheet with the author's name, title, organization, and by a short biography. Competitors need to submit their entries to the Office of the Chemical Corps Historian, U.S. Army Chemical School, ATTN: ATZN-CM-MH, Fort McClellan, Alabama 36205-5020, no later than 15 August 1994. Judging will be on a 100-point scale, with up to 40 points for writing clarity, 30 for relevance to the Chemical soldier of the 1990s, 20 for general accuracy, and 10 for originality. A panel of judges appointed by the Assistant Commandant, Chemical School, will review the entries and recommend the top three articles to the Chief of Chemical. The decision of the Chief of Chemical will be final. The Chemical Corps Regimental Association will present monetary awards to the top three entries. First place will receive $300, second will get $150, and $50 will go to the third-place entry. The winning article will be published in the Chemical Corps Regimental Association "Yellow Book" and in the January 1995 issue of *CML, Army Chemical Review*. Other articles submitted to the competition will be considered for publication as appropriate.

For further information contact Dr. Daniel E. Spector, Chemical Corps Historian, U.S. Army Chemical School: DSN 865-5722, or commercial (205) 848-5722.

Operation Strong Wind Available

On 6 August 1993, a tornado touched down in the tri-cities area of Petersburg, Hopewell, and Colonial Heights, Virginia. Two areas, the historic district of Petersburg and the Southpark Mall in Colonial Heights, were especially hard hit, including fatalities and 150 people injured. Soldiers from Fort Lee, Virginia, responded with equipment to assist in the rescue and recovery. Dr. Lynn L. Sims, Command Historian, Combined Arms Support Command, Fort Lee, has captured the story of that effort in *Operation Strong Wind: Fort Lee's Response to a Local Tornado Disaster, 6 August 1993*. This study describes the lessons learned at Fort Lee in a classic "operations other than war" environment.

Interested readers can obtain a copy of the study from: U.S. Army Combined Arms Support Command and Fort Lee (CASCOM), ATTN: ATCL-H (Dr. Sims), Fort Lee, Virginia 23801-6000. Phone: (804) 734-2632 or DSN 687-3632.

Pacific War Conference Being Planned

The Admiral Chester W. Nimitz Museum in Fredericksburg, Texas, will sponsor a conference, 8-9 October 1994, entitled "The Die is Cast: The Final Campaigns of the Pacific War." A number of distinguished speakers have been invited to this conference, which is still in the planning stage. For further information, contact the Admiral Chester W. Nimitz Museum, Fredericksburg, TX 78624.

1944

July-September

2 Jul - The 133d Infantry captures Cecina, Italy.
- The 158th Infantry makes an amphibious landing on Noemfoor Island in Geelvink Bay between Biak Island and the Vogelkop Peninsula of New Guinea.

3 Jul - In northern France the VIII Corps opens a First Army offensive with an attack south along the Cotentin west coast designed to gain dry ground beyond the Cotentin marshes and to threaten the flank of German forces blocking the advance of units in the center of the Allied line. This marks the beginning of the battle of the hedgerows.
- Elements of the 503d Parachute Infantry are airdropped onto Noemfoor.

3-19 Jul - During its offensive through the hedgerows the First Army is confronted not only with a determined enemy but also by terrain exceptionally well suited to defense. Divided into small fields separated by overgrown earth mounds and linked by narrow sunken roads, the *bocage* country effectively nullifies the American strengths of maneuverability and massed firepower. Forced to fight small unit actions one hedgerow at a time, without any clear sense of the situation one or two fields away, U.S. troops advance slowly and painfully.

7 Jul - Approximately 3,000 Japanese troops make a desperate *banzai* charge on Saipan, striking positions of the 105th Infantry and inflicting heavy casualties. The attack is the last gasp of the Japanese on Saipan.

9 Jul - Saipan falls to U.S. forces, providing airfields within bombing range of the Japanese home islands.
- Canadian and British forces capture Caen.

11 Jul - The 9th and 30th Infantry Divisions contain a counterattack by the *Panzer Lehr Division* intended to drive the Americans from their positions south of the Vire et Taute Canal. About fifty German tanks are destroyed.

18 Jul - Elements of the 29th Infantry Division capture St. Lo as the battle of the hedgerows draws to a close.

19 Jul - The 135th and 363d Infantry enter the vital Italian port of Leghorn, which the Germans had evacuated the night before.

20 Jul - Adolf Hitler is slightly wounded in an unsuccessful attempt by high-ranking German officers to assassinate him.

21 Jul - Elements of the 3d Marine Division, the 1st Provisional Marine Brigade, and the 77th Infantry Division make assault landings on Guam.

23 Jul - The 34th Infantry Division reaches the south bank of the Arno. As its other elements reach the river the Fifth Army pauses for rest and reorganization.

24 Jul - U.S. Marines make an amphibious landing on Tinian Island, 3.5 miles south of Saipan. Due to its large, flat plateau Tinian is one of the best airfield sites in the Central Pacific.

25 Jul - Following a massive aerial bombardment the VII Corps launches Operation COBRA, an offensive designed to break the First Army out of the hedgerow country into the more open terrain south of the Lessay-St. Lo highway. The initial objectives are the towns of Marigny and St. Gilles.

26 Jul - Combat Command A, 2d Armored Division, and the attached 22d Infantry capture St. Gilles and Canisy.

27 Jul - The VII and VIII Corps achieve a successful breakthrough of German defenses, prompting First Army commander General Omar Bradley to expand his attack and attempt to force a major breakout on the American right flank.

28 Jul - Combat Command B, 4th Armored Division, captures Coutances. The German withdrawal becomes more desperate as the left of the German line begins to crumble.

30 Jul - The 1st Infantry makes an unopposed amphibious landing on the north coast of the Vogelkop Peninsula, New Guinea.

31 Jul - Combat Command B, 4th Armored Division, secures Avranches, setting the stage for the offensive to move from the Cotentin into Brittany. The German left flank is completely disintegrating.

1 Aug - The 12th Army Group becomes operational in France under the command of General Bradley. Lt. Gen. Courtney H. Hodges takes over the First Army, and Lt. Gen. George S. Patton's Third Army becomes operational. The drive into Brittany begins.

- Tinian Island is secured.

1-8 Aug - The 6th Armored Division makes a 200-mile dash through Brittany and surrounds the fortress port of Brest, trapping 30,000 German troops.

3 Aug - The 1st Infantry Division captures Mortain.

4 Aug - Rennes, the capital of Brittany, is captured.

5 Aug - Combat Command A, 4th Armored Division, captures Vannes, cutting the base of the Brittany peninsula and trapping four German divisions.

7 Aug - The Germans launch their first large-scale counterattack since the Allied invasion toward Mortain in an attempt to drive to Avranches and split the American front in two. U.S. troops are forced to abandon Mortain, but the counterattack is contained.

8 Aug - The XV Corps captures le Mans.

10 Aug - The XV Corps launches an attack from le Mans north toward Argentan. Combined with an attack south from Caen toward Falaise by Canadian troops, the Allies hope to encircle the German forces west of Argentan and Falaise.

- Guam is declared secure, concluding the campaign in the Marianas.

12 Aug - Troops of the VII Corps reenter Mortain after the Germans withdraw from the town. The Mortain counterattack has cost both sides heavy casualties, but the Germans suffer worst due in large part to Allied air superiority and artillery. Nearly a hundred German tanks are destroyed or disabled.

- The 4th Armored Division, assisted by the French Forces of the Interior, captures Nantes.

15 Aug - The Seventh Army's VI Corps, consisting of the 3d, 36th, and 45th Infantry Divisions, makes an assault landing on the Mediterranean coast of France, in the vicinity of St. Tropez. German resistance is weak and disorganized, and by D plus 1 the invading troops have gained the initial objectives assigned to them and secured a permanent lodgment in southern France.

16 Aug - Canadian troops capture Falaise, but XV Corps elements are south of Argentan, leaving a fifteen- mile gap in the Argentan-Falaise pocket, through which the Germans are withdrawing.

17 Aug - After nearly two weeks of bitter fighting the 83d Infantry Division secures the Brittany port city of St. Malo.

19 Aug - The gap in the Argentan-Falaise pocket is closed.

- Elements of the 79th Infantry Division cross the Seine River near Mantes-Gassicourt.

20 Aug - Biak Island is declared secure.

21 Aug - Following desperate, and partially successful, attempts by the trapped Germans to break out of the Argentan-Falaise pocket, the pocket is finally reduced. Although an estimated 20,000 to 40,000 Germans escape the trap, the Allies capture 50,000 POWs and count 10,000 enemy dead in the pocket.

25 Aug - The 2d French Armored Division and the 4th Infantry Division liberate Paris.

26 Aug-10 Sep - Allied forces in northern France make spectacular advances from the Seine through France, Belgium, and Luxembourg to the border of Germany, hindered more by strained supply lines than by enemy resistance.

28 Aug - Elements of the 7th Armored Division capture several bridges over the Marne River at Chateau-Thierry.

- Marseille and Toulon are secured by troops of the southern invasion force.

31 Aug - Elements of the 7th Armored Division cross the Meuse River at Verdun.

- Noemfoor is declared secure.

1 Sep - Supreme Headquarters, Allied Expeditionary Force (SHAEF), becomes operational in France with headquarters near Granville.

- The Fifth Army's IV Corps crosses the Arno River. The Germans have withdrawn north to man positions in the Gothic Line so the crossing is unopposed.

4 Sep - Elements of the 80th Infantry Division cross the Moselle River near Nancy. Over the next week other Third Army elements gain bridgeheads over the Moselle.

- British troops capture the port of Antwerp; however, it cannot be used to relieve Allied logistics until the sixty miles of approaches through the Schelde estuary are cleared of the enemy.

11 Sep - Elements of the Seventh Army (the French 2d Dragoons) meet elements of the Third Army (a patrol of the 6th Armored Division) at Saulieu. This is the first physical contact between the northern and southern invasion forces. As the connection is solidified the Allies form a continuous front from the English Channel to the Mediterranean Sea.

- Patrols of the V Corps cross the border into Germany.

15 Sep - The 31st Infantry Division makes a largely unopposed amphibious landing on Morotai Island, northernmost of the Moluccas Islands.

- The 1st Marine Division makes an assault landing on Peleliu, in the Palau Islands.

17 Sep - Operation MARKET-GARDEN is launched. Twenty thousand Allied troops are air-dropped behind enemy lines in the Netherlands. At the same time troops of the Second British Army launch a ground assault to link up with the airborne forces. The operation's objectives are to outflank the German defenses at the West Wall, to get Allied forces over the Rhine, and ultimately to assault the vital German industrial center in the Ruhr basin.

- The Fifth Army breaches the Gothic Line at Il Giogo Pass.

- The 81st Infantry Division lands on Angaur Island, ten miles south of Peleliu.

19 Sep - The German garrison defending Brest surrenders after a 3 1/2-week battle.

22 Sep - The Allies' strained logistical situation induces General Dwight D. Eisenhower to order a halt to the Third Army's offensive east of the Moselle in order to free supplies for the 21 Army Group's efforts to clear the approaches to Antwerp.

- The 323d Regimental Combat Team lands on Ulithi Atoll in the Palaus. The atoll had been abandoned by the Japanese several weeks earlier.

23 Sep - The 321st Regimental Combat Team lands on Peleliu to assist the marines in securing the island.

Mr. Edward N. Bedessem of the Center's Historical Services Division prepared this chronology.

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West Point Graduate Honored on His 104th Birthday

On 12 March 1994, Col. Edmund Ellis (U.S. Military Academy Class of 1915) celebrated his 104th birthday. To mark the occasion, the president of the West Point Society of D.C., Maj. Gen. Carl H. McNair, Jr., USA (Ret.), presented a letter and a set of World War I volumes from the Chief of Military History, Brig. Gen. Harold W. Nelson, to Colonel Ellis. Colonel Ellis is the sole surviving member of the Class of 1915, a graduating class that indeed experienced its share of military history.

Recent Center of Military History Publications

Beth F. MacKenzie

The following overview summarizes the publications available from the U.S. Army Center of Military History since the last such summary in Army History, *no. 27 (summer 1993).*

Historical Map Poster Now Available

D-Day: The 6th of June, a historical map poster produced by the U.S. Army Center of Military History, is now available for use in Army training activities. This unique map poster contains a full-size map on one side showing the Normandy coast, with both American and British landing sites highlighted. On the reverse, historical accounts and photographs present a summary of the operation and detail the landings on OMAHA and UTAH Beaches. This training device should be particularly effective and pertinent as we commemorate the fiftieth anniversary of this historic event. As training literature, these posters are available at no charge to Army publications account holders and should be requisitioned as CMH Pub 70-53 on DA Form 4569. Account holders may requisition up to 100 copies of this publication. If additional copies are required, please forward DA Form 4569 for approval to U.S. Army Center of Military History, ATTN: DAMH-ZBP-E, 1099 14th Street, NW, Washington, D.C. 20005-3402, or fax to Mrs. Yeldell, Office of Production Services, at (202) 504-5390.

New! The U.S. Army Campaigns of World War II

Sicily, *Eastern Mandates*, and *Normandy* are the latest titles published in the U.S. Army Campaigns of World War II series. These illustrated brochures describe the strategic settings, trace the actions of the major American units involved, and analyze the impact of the campaign on future operations. As training literature, these brochures are available at no charge to Army publications account holders, and may be requisitioned using DA Form 4569 by citing the following numbers: *Sicily*: CMH Pub 72-16; *Eastern Mandates*: CMH Pub 72-23; *Normandy*: CMH Pub 72-18. Account holders requiring more than 10 copies of *Sicily* or *Eastern Mandates* or 100 copies of *Normandy* should forward DA Form 4569 to Mrs. Yeldell at the address given above.

World War II Publications Available

The Army Nurse Corps and *The Women's Army Corps in World War II* are the newest topical brochures published by the U.S. Army Center of Military History to commemorate the fiftieth anniversary of World War II. These illustrated brochures present a summary of the missions and achievements of these two branches of the U.S. Army. As training literature, these brochures are available at no charge to Army publications account holders, and should be requisitioned using DA Form 4569, with the following numbers: *The Army Nurse Corps:* CMH Pub 72-14; *The Women's Army Corps in World War II*: CMH Pub 72-15. Account holders requiring more than 10 copies of either one of these publications should forward DA Form 4569 to Mrs. Yeldell.

By Popular Request: CMH First Paperback Editions

Paperback editions are now available for many of the most popular titles in the Center of Military History's "green book" series on World War II. The publications currently available in paperback, with their respective CMH Pub numbers, are as follows: *The Fall of the Philippines* (CMH Pub 5-2-1), *Seizure of the Gilberts and Marshalls* (CMH Pub 5-6-1), *Triumph in the Philippines* (CMH Pub 5-10-1), **Sicily and the Surrender of Italy* (CMH Pub 6-2-1), **Salerno to Cassino* (CMH Pub 6-3-1), **Cassino to the Alps* (CMH Pub 6-4-1), **Cross-Channel Attack* (CMH Pub 7-4-1), **The Ardennes: Battle of the Bulge* (CMH Pub 7-8-1), **The Lorraine Campaign* (CMH Pub 7-6-1), *Campaign in the Marianas* (CMH Pub 5-7-1), *Leyte: The Return to the Philippines* (CMH Pub 5-9-1), **Breakout and Pursuit* (CMH Pub 7-5-1), **The Last Offensive* (CMH Pub 7-9-1), and **The Siegfried Line Campaign* (CMH Pub 7-7-1). In addition, the maps for those titles marked with an asterisk (*) are available separately in a portfolio, which makes them readily adaptable for teaching Army history in the field. As training litera-

ture, these books are available at no charge to Army publications account holders and should be requisitioned by CMH Pub number, using DA Form 4569. For maps only, use the CMH Pub number listed above, followed by (MAPS). Account holders requiring more than 5 copies of any one of these publications should forward Form 4569 for authorization to CMH.

Catalogs Available

No longer is it necessary to try to remember the title of that book that you wanted to read or requisition. The U.S. Army Center of Military History has recently produced two catalogs that should prove useful to students, instructors, and researchers of military history. *World War II: Select Publications of the U.S. Armed Forces* (CMH Pub 105-3) gives a brief description, along with procurement information, for selected World War II publications of the Army, Air Force, Navy, Marine Corps, and Coast Guard. *Publications of the U.S. Army Center Military History, 1993-1994* (CMH Pub 105-2) is a biennial catalog of all CMH publications, with a special section highlighting the World War II titles. Both of these catalogs are available at no charge to Army publications account holders, and should be requisitioned by CMH Pub number, using DA Form 4569. Account holders requiring more than 5 copies of either one of these publications should mail or fax Form 4569 to Mrs. Yeldell, Office of Production Services.

Oral History Professionals and Amateurs

The Center's Oral History Branch has produced two publications that may be beneficial to our readers with an interest in oral history. The recently reprinted *Oral History: Techniques and Procedures* is a how-to guide for conducting, documenting, and using oral history interviews. The *End of Tour Interview with Lieutenant General Allen Ono* is the first completed manuscript in the End-Of-Tour Interview Program and provides an interesting and informative chronicle of the observations of the Army's former top military personnel officer. Both of these publications are available by contacting the Oral History Branch at (202) 504-5428.

Ms. Beth MacKenzie is currently assigned to the Center's Office of Production Services.

Military Vehicle Rally and Miniature Model Show Set for Duxford, England

Students of World War II and verterans commemorating the fiftieth anniversary of that conflict may wish to note the following events if they are taveling to England this summer.

The annual military vehicle rally will take place at the the Imperial War Museum, Duxford, England, 7 August 1994. The rally will be in conjunction with the annual national competition and model show of the Miniature Armored Fighting Vehicle Association. These events will allow visitors to see both full-size and scale models of all types of military vechicles and the rest of the Imperial War Museum, Duxford, as well. Model traders will be present.

For more information, send a stamped, self-addressed envelope to Mr. Paul Middleton, 39 The Leas, Baldock, Herts, SG7 6HZ, United Kingdom.

The Industrial Mobilization of World War II

America Goes to War

Thomas D. Morgan

Few people today can imagine the dark days that followed the catastrophe at Pearl Harbor. The nearness of peril seemed to overshadow Washington, D.C. There were reports that the coastlines of the United States were under imminent threat of invasion by Japan or Germany. Enemy submarines prowled American waters off both coasts, and a beach in southern California received a token shelling by a Japanese submarine. The public did not know that the once powerful Pacific Fleet had suffered a near fatal blow and would not be able to take the offensive against Japan for some time. In short, the United States could only undertake desperate delaying actions against its enemies until accelerated war production replenished the great arsenal of democracy.

The Interwar Years

World War I taught Americans that it was not enough to have the potential for producing large quantities of war materiel. A certain amount of effective planning had to accompany that potential, because—in essence—the United States fought World War I with materiel purchased or borrowed from the French and British. Our poor industrial mobilization record in that war is highlighted by the fact that during 1917 the federal government ordered 50,000 artillery pieces from domestic industry, yet only 143 were finished in time to be used on the battlefield before the armistice.

During the decades of peace that followed, the Planning Branch of the War Department and the Army and Navy Munitions Board were charged with planning for any future mobilization of the nation's resources. The result of this planning was an Industrial Mobilization Plan (IMP) of 1930 that was revised several times up to 1939. There were also two other plans to facilitate the country's transition from peace to war: the military mobilization or Protective Mobilization Plan (PMP) and the Procurement Plan to obtain necessary equipment for the Army. The IMP made famous the designation "M-Day." But as the countdown to war progressed, M-Day never came. It was preempted by a series of measures and events culminating with declarations of war after Pearl Harbor.

The Preparedness Program

With the beginning of World War II in Europe in September 1939, President Franklin D. Roosevelt started the PMP—the result of industrial mobilization planning during the lean interwar years. The Protective Mobilization Plan began with Roosevelt's proclamation on 8 September 1939 of a limited national emergency. This step enabled the president to strengthen national defense within the limits of peacetime authorizations. The U.S. Army at that time totaled less than 190,000 men and ranked seventeenth among the armies of the world, just behind the army of Rumania. In 1939 the Army Air Corps had 20,000 men and 1,700 mostly obsolete aircraft. President Roosevelt called for a productive capacity of 50,000 planes per year. Over the next five years, 310,000 aircraft would be produced for the Air Corps and for the Allies. Protective mobilization lasted until December 1941, when full mobilization went into effect after Pearl Harbor.

As the war clouds gathered over Europe in August 1939, President Roosevelt created the War Resources Board (WRB) to advise the Army and Navy Munitions Board on policies relevant to war mobilization. The board was composed chiefly of "big business" members, rather than labor or consumer groups. By 1940 the United States had a well-equipped navy, a skeleton army, great reserves of military and industrial manpower, a small munitions industry, good manufacturing facilities that could be converted to war production, many vitally needed raw materials, and great scientific and engineering skills. But having the biggest industrial establishment in the world did not make the nation the strongest militarily. *Blitzkrieg* tactics emphasized the role of tanks and aircraft in modern warfare. The U.S. Army had about 500 tanks, none of them heavy tanks, and not all combat effective. Still, Adolf Hitler in *Mein Kampf* had speculated about the "American Colossus."

In 1916 President Woodrow Wilson had created the cabinet-level Council of National Defense, which in turn established the National Defense Advisory Council (NDAC). Reactivated in May 1940 under the Office of Emergency Management, the NDAC re-

placed the WRB, which had done its job and made its recommendations during the protective mobilization period. The NDAC became unwieldy after Dunkirk and the fall of France in June 1940 because of the demands for foreign aid, both for the Allies and for the accelerated internal U.S. mobilization. Before the NDAC was replaced by the Office of Production Management (OPM) in the latter half of 1941, however, the NDAC had helped launch a $9 billion expansion program that gave industrial production a tremendous boost.

All Aid Short of War

The Lend-Lease Act of March 1941 had its origins in the *Blitz* bombing of London after Dunkirk and in the German-Italian-Japanese Axis Pact. The U.S. government obligated itself to reequipping the British Expeditionary Force for the defense of the British Isles. Seven million Enfield rifles, 8,250 tanks and antitank guns, 3,400 antiaircraft guns, 2,100 artillery pieces, and other equipment and ammunition were ordered from the "arsenal of democracy" to equip and maintain a force of ten new British divisions. The cost was $7 billion, but financially strapped Great Britain could not pay. The arms and equipment, therefore, were lent to the British by terms of the Lend-Lease Act. It established foreign aid as an essential feature of rearmament, mobilization, hemispheric defense, and—ultimately—victory in a global war.

The Industrial Mobilization Plan had assumed that a state of war would exist before large-scale procurement became necessary. Suddenly the United States began rearming Great Britain and trying to build up domestic defenses at the same time. It was natural that conflicts would result in trying to balance war materials and civilian goods. The Office of Production Management, a stronger agency than the NDAC, tried to solve the problems of conflicting priorities, but the shortages of raw materials (especially crude rubber) grew, and stockpiling became necessary. Nevertheless, Lend-Lease and the domestic mobilization gave the nation substantial advantages. The wartime industrial base received an early start on expansion. Expansion in turn stimulated the economy and ended the lingering effects of the Great Depression. American-made equipment became a standard for the Allies, and the United States would receive "reverse Lend-Lease" aid in other theaters of the war.

The Victory Plan

The armed forces expanded rapidly with the aid of the nation's first peacetime draft in September 1940. Munitions output soared as civilian industry converted to defense production. However, vexing issues of priority arose, and problems appeared in the form of material shortages, wage and price distortions, labor migration, industrial unrest, and inflation. The Protective Mobilization Plan could not compete with Lend-Lease and with the demands of domestic mobilization. In the summer of 1941, therefore, President Roosevelt asked Secretary of War Henry L. Stimson to determine overall production requirements and to establish objectives to defeat all potential enemies.

As a staff officer in the War Plans Division, Maj. Albert C. Wedemeyer received the task of constructing a broad blueprint for American participation in a possible war against the Rome-Berlin-Tokyo Axis. Wedemeyer developed a specific war scenario emphasizing a "Europe first" approach and an outline plan for mobilizing and employing the nation's resources in an all-out effort. Known as the "Victory Plan," Wedemeyer's creation called for the mobilization of some ten million men, the organizing and equipping of modern expeditionary forces, and the rapid deployment of industrial capacity to prepare these forces for action. The Victory Plan was a comprehensive statement of American strategy that served as a fundamental planning document in preparing the country for war. This plan, with the adjustments made after Pearl Harbor, became official Washington's guide for mobilization of manpower and materiel and for global deployment of forces.

The president declared an unlimited national emergency on 27 May 1941 and announced aid to the Soviet Union after the German invasion that June. The Atlantic Charter, announced in mid-August 1941, further marked the transition from peace to war. By 7 December 1941, military programs were approaching full-scale wartime proportions. The Japanese attack on Pearl Harbor solidified public opinion and the focused the will of the nation. After that attack the emphasis on war production changed from a "defense program" to a "victory program." On 8 January 1942, Roosevelt announced new goals for this victory program that included greatly increased rates of production for airplanes, tanks, vehicles, guns, and shipping.

A new organization, the War Production Board (WPB), provided guidance for the victory program. Headed by a single chairman (Donald M. Nelson), the WPB superseded the Office of Production Management. The WPB continued throughout the war, mobilizing industrial capacity for manufacturing weapons

and supplies for modern war. The critical year for industrial mobilization was 1942. Production capacity, expressed largely in terms of production plants and tools, was the key to success. Raw materials, especially metals and minerals, were the critical resources. Output increased with construction of new plants and round-the-clock plant operations. By December 1942 war industry plants were averaging nearly ninety work hours per week.

In 1943, as the tide turned toward victory on the battlefield, there arose the fear of excess plant availability for military production. Expansion of manufacturing capacity was not always matched by a comparable expansion in the production of raw materials, resulting in shortages of some ores and nonmetallic items. Manpower, not a problem earlier because of high national unemployment, became a limitation on output as full wartime employment was reached. In 1943 in the face of these new realities, the Office of War Mobilization was created as a new coordinating authority over the entire economic mobilization program.

The year 1944 was one of production readjustments, as ultimate victory came into view. The Office of War Mobilization and Reconversion emerged to start planning the transition from war to peacetime. Victory came a year later in 1945.

The industrial mobilization of the United States fell into four distinct periods: (1) May 1940 to the autumn of 1943: the buildup phase; (2) late 1943 to March 1945: sustainment of high levels of production; (3) April to August 1945: maintenance of necessary war production levels while providing for the orderly resumption of civil production; and (4) post-August 1945: wholesale reconversion of the economy to peacetime.

Controls

A staff of approximately 100 was required in June 1940 to administer the National Defense Advisory Council. The Office of Production, successor to the NDAC, had almost 8,000 employees after Pearl Harbor. A year later, the War Production Board had 23,000 employees. At the peak of war procurement, 30,000 War Department civilian personnel were involved in inspecting military procurement activities.

It was not until Donald Nelson was appointed head of the War Production Board by President Roosevelt that all groups, i.e., labor, business, government, education, and the military, were harnessed effectively for the war effort. The WPB worked by democratic collaboration, using negotiation, compromise, delegation, and individual initiative to achieve a common objective. Democratic participation in individual mobilization during World War II required a "defense in depth" that reached from individual homes and factories to the battlefields overseas. This meant production by all elements of the economy in industrial mobilization, while preserving individual initiative and a sense of justice within the limits imposed by the war emergency.

The Achievement

The United States became in a real sense the arsenal of democracy during World War II, producing about 40 percent of the world's total munitions during the crucial years 1943-44. The actual dollar expenditure of the U.S. government during the conflict was $337 billion. The Manhattan Project alone engaged the services of 100,000 workers and cost more than $2 billion. Although factors other than supplies were important in bringing ultimate victory, the preponderance of Allied munitions—provided by American industry—was a decisive factor in the war's outcome. Occasional shortages of materiel on the battlefield sometimes hindered military operations, yet none of them could be traced conclusively to a production failure on the home front.

War production was less than 2 percent of the total gross national product (GNP) in 1939, but reached a peak of 44 percent in 1944, a year in which consumer purchases of goods and services actually rose. Manufacturing, mining, and construction industries doubled their production between 1939 and 1944. The overall production capacity of the nation increased by 50 percent, most of it financed by the government at a cost of $25 billion. Domestic production of industrial raw materials increased 60 percent and steel production doubled. Imports of crude materials from 1940 to 1944 were 140 percent of the 1939 rate. As noted earlier, industries operated, on average, 90 hours a week, compared to a prewar average of 40 hours.

By 1944 there were 18.7 million more people at work in the United States than in 1939: the armed services expanded by 11 million, while civilian labor added 7.7 million to the domestic labor forces. Between 1939 and 1944 worker productivity grew by 25 percent, thanks to increased efficiency, new plants and manufacturing equipment, improved production techniques, application of mass production methods, and the incentive provided by the urgency of winning the war. Manpower, which had not been a critical problem

during the defense buildup phase, when unemployment was common, became the most significant limitation on output until the war's end.

The automobile industry was the heart of American industry at the start of World War II. It was the greatest reservoir of technical and mechanical talent and inventive skill ever assembled. By the end of the war, it had produced 75 percent of the aircraft engines, more than one-third of all machine guns, 80 percent of all tanks and tank parts, 50 percent of all diesel engines, and 100 percent of the vehicles that motorized the Army. The greatest production success was in aircraft. In 1939 5,865 planes were produced; in 1944 aircraft production had risen to 96,318.

Aircraft Production

Year	Number Produced
1939	5,865
1940	12,804
1941	26,277
1942	47,836
1943	85,898
1944	96,318

At Tehran, Iran, Marshal Joseph Stalin proposed a toast, saying that without American war production "our victory would have been impossible." That production accounted for 310,000 planes, 124,000 ships of all types, 41 billion rounds of ammunition, 100,000 tanks and armored vehicles, 2.4 million other vehicles, 434,000 tons of steel, and 36 billion yards of cotton textiles. A skeleton army of less than 200,000 in 1939 had grown by 1944 to more than 8 million men in 89 combat divisions, plus a large air corps. Instead of borrowing or buying from the Allies, as was done in World War I, American production lines turned out the needed materiel.

America's World War II Production Achievement

Item	Quantity
Battleships	10
Aircraft carriers	27
Escort carriers	110
Submarines	211
Cruisers, destroyers, escorts	907
Locomotives	7,500
Artillery guns, howitzers	41,000
Landing craft of all types	82,000
Tanks	88,000
Aircraft	310,000
2 1/2-ton trucks	806,073
Rifles, carbines	12,500,000

American industry made an overwhelming contribution to the eventual victory, and this effort transformed the nation forever.

Epilogue

The War Production Board's principal achievement was the mobilization of America's industry during the war. In November 1945 the Civilian Production Administration (CPA) replaced the WPB. The task of the CPA was to ease the transition from war to peacetime civilian production. The country had faced the problem of organizing the private and public resources of a free nation without any real percedent for a guide. When the nation returned to peace, the mechanisms for democracy were unimpaired.

The lessons learned from mobilizing for World War II prompted postwar legislation to ease the process in the future, i.e., the National Security Act of 1947, the National Industrial Reserve Act of 1947, and the Strategic and Critical Material Stockpiling Act of 1948.

Sadly, national defense suffered again before the next conflict in Korea. The Army demobilized rapidly, going from over 8 million soldiers in 89 divisions in 1945 to 660,000 in 1948. Even the 660,000 figure could not hide the fact that, by the late 1940s, the Army had become a hollow force, with unmanned or understrength units. Toward the end of 1947, U.S. Army Deputy Chief of Staff General J. Lawton Collins told Congress that the Army could not at that time mobilize a single combat-ready division.

Lt. Col. Thomas D. Morgan, USA (Ret.), is employed by a defense contractor at Fort Leavenworth, Kansas, supporting the Training and Doctrine Command's Battle Command Training Program. His article "The Ring—A Historical Vignette," appeared in Army History *no. 24 (Fall/Winter 1992/1993).*

A Note on Sources

Interested readers can find additional information about interwar industrial mobilization in the following:

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Army After-Action Reports, Circa 1860s

Ted Ballard

Current Army regulations require that in combat and contingency operations command reports be prepared by the units involved, down to brigade/regiment/group level. (1) These "after-action reports" are to be narrative, accurate records of significant operations.

During the Civil War both Union and Confederate commanders also submitted after-action reports, called field returns. Commanding officers down through the regimental level were required to submit returns following every battle, skirmish, or other engagement in which the unit participated. After the war these field returns were compiled by the Office of the Secretary of War and published in 128 volumes by the Government Printing Office. Entitled *War of the Rebellion*, these volumes are the primary source of official records for any research into combat actions of the Civil War. The following two examples of these early after-action reports are presented for comparison with the current reporting system.

Maj. George L. Anderson commanded the 1st Battalion, 17th Infantry, during the Battle of Second Manassas. The 17th Infantry was in one of two brigades of regulars of Maj. Gen. Fitz-John Porter's V Corps, which were involved in the confused and piecemeal attacks against the center of Lt. Gen. Thomas J. ("Stonewall") Jackson's line. Anderson's field return, submitted within a week after the battle, reflects some of that confusion:

"I have the honor to report that this battalion, under my command, arrived at Manassas Junction on the 29th ultimo, and during the afternoon of that day was marched out on the road to Gainesville and brought under fire of the rebel batteries. On the morning of August 30, 1862, we arrived at Bull Run, and were put into position about 9 o'clock a.m. to the right of the center of the line of battle. Here we remained until nearly 2 o'clock p.m., at which time we were advanced into a cornfield and remained there several hours, being the whole day under the enemy's fire and losing several men.

About 5 o'clock p.m. I was ordered to retire in line of battle, and when out from under fire to march my command by the flank to the vicinity of Bull Run and give the men something to eat, as they had then been some eighteen hours without food. On my way to obey this order, and when nearly to the summit of Bull Run Hill, I was ordered to halt, and asked by a major general, who I afterward learned was Maj. Gen. [John] Pope, "What troops are these and where are you going?" Upon receiving the required information, [I] was soundly berated for the movement and ordered to remain where I was. Soon after I received orders through a staff officer to advance into timber on our right, as we then were being faced by the right flank. This officer I referred to my brigade commander, but prior to his return received peremptory orders to ad-

vance from a general whom I subsequently was informed was Maj.Gen. [Irvin] McDowell.

In obedience to this order I filed to the right and advanced toward the timber, and followed a road which brought me on the extreme left of the woods. I here entered the woods, and feeling my way along finally came out on the other side in an open plain. We had not advanced a hundred paces on the plain before a battery which flanked us opened, and I retired to the shelter of the woods again. I now halted the battalion and proceeded in person in search of the enemy's infantry. In this I did not succeed only so far as to hear musketry some distance on my right, which appeared to be slowly advancing toward me. Finding the Second U.S. Infantry...posted on the line of the road by which I advanced, I marched my battalion out to support his left.

The firing from our right now rapidly approached, and soon two lines of the rebels appeared at a short distance immediately in our front. A well directed fire was now opened upon them from our whole line, with apparently a most destructive effect, and sustained at intervals as often as the enemy appeared. It was at this point my battalion suffered its principal loss. Suspecting all the time we were being flanked, I sent to our left just before we opened fire, but could learn nothing.

About 7 p.m., finding the Second Infantry were retiring, I did likewise, and had hardly gone back 100 paces when, my left wing becoming exposed in an open plain, the enemy opened a brisk fire upon us from a battery, but without any known effect, as I immediately marched by a flank under the shelter of the timber. While doing so my line was cut and several companies badly scattered by a regiment of volunteers, who, in spite of the best efforts of myself and officers, could not be checked or diverted from their course at that moment. I am happy to say, however, that as my battalion emerged into the open plain beyond the timber the divided portions joined immediately, the scattered men rapidly joining their companies, there was not a man missing by the time we were brought to a halt, some 300 yards farther on. To say that both officers and men behaved to my entire satisfaction would hardly express it, and when I consider that less than 70 of the men had ever been under fire before, and that three companies were recruits, besides having nearly 50 recruits scattered through the other companies, their retiring in line of battle in good order from their original position in the cornfield, under a brisk fire of shells, over fences and deep ditches, and again when all felt the day was lost, to maintain their organization while retiring under a severe fire through a tangled underbrush and with other troops rushing through their ranks, may be considered remarkable.

Of my officers I cannot speak too highly, and where all behaved as admirably it is almost impossible and would seem almost partial to name individuals; but I must be allowed to speak of Capt. J. P. Wales (acting field officer) and First Lieut. W. W. Swan (acting quartermaster). Their services during the entire day were invaluable, and to their coolness and persistent efforts I am not a little indebted for the good behavior of the battalion. Capt. W. J. Temple, who accidently came more immediately under my personal observation than the other company commanders, won my admiration by his calm calculation and economy in the use of his ammunition.

Below I append a list of my casualties, also the number of men who went into action. I have employed my best efforts to select correctly those men whose behavior appears to entitle them to honorable mention; also those whose other qualifications, together with gallant conduct, would seem to fit them for the position of second lieutenant. Each class will be found under its appropriate head.

Trusting the conduct of myself and the battalion will meet with the approbation of my commanding officers, I am, sir, very respectfully, your obedient servant..."(2)

U.S. Air Force Academy

Military History Symposium Announced

The United States Air Force Academy will hold the Sixteenth Military History Symposium, "Tooling for War: Military Transformation in the Industrial Age," 21-23 September 1994. For further information, write to Maj. John Farquhar, HQ USFA/DFH, 2354 Fairchild Drive, Suite 6F37, USAF Academy, Colorado 80840-6246 or phone (719) 472-3230, FAX (719) 472-2970.

Confederate field returns followed generally the same format as those for Union returns. During the Battle of Gettysburg Col. William R. Aylett commanded the 53d Virginia Infantry of Brig. Gen. Lewis A. Armistead's brigade. When Armistead was mortally wounded during Pickett's Charge on 3 July 1863, Aylett assumed command of the brigade only to also fall with a wound. Later recovered, he submitted the brigade's after-action report:

"I have the honor to submit the following report of the part borne by this brigade, commanded by Brig. Gen. L. A. Armistead, in the battle of July 3, 1863, near Gettysburg, Pa.

After a march of about 25 miles on the 2d the brigade bivouacked about 4 miles from Gettysburg, on the Chambersburg turnpike. From this position it moved at 3 a.m. on the 3d instant to the right of the town and took position as a second line or support to the first line of assault, composed of the brigades of Generals Garnett and Kemper, with orders to follow, when they moved forward, and carry the enemy's position.

Shortly after the line was formed our artillery, posted on a hill in our front, opened with a severe fire on the enemy's position, which was responded to with great rapidity. Although the men were for an hour exposed to a very severe fire, the brigade suffered but slight loss, and took its position with alacrity and precision when the line was ordered to advance. The brigade moved on across the open field for more than half a mile, receiving, as it came in range, fire of shell, grape, canister, and musketry, which rapidly thinned its ranks; still pushed on until the first line of the enemy, strongly posted behind a stone wall, was broken and driven from its position, leaving in our hands a number of pieces of artillery, how many is not known.

By this time the troops on our right and left were broken and driven back, and the brigade exposed to a severe musketry fire from the front and both flanks and an enfilading artillery fire from the rocky hill some distance to the right. No supports coming up, the position was untenable, and we were compelled to retire, leaving more than two-thirds of our bravest and best killed or wounded on the field.

For particulars of our loss I refer you to the list of casualties herewith submitted, and for the part borne by the different regiments to the reports of regimental commanders filed herewith.

Where all conducted themselves with gallantry and coolness it would be invidious to specify individuals; but I must be permitted to remark that the whole brigade acted with the utmost steadiness and bravery, and only fell back when its numbers were so small that it could accomplish nothing by remaining.

This report would fail in completeness and in rendition of justice to signal valor and heroic behavior were it omitted to notice particularly the gallant conduct of our brigade commander, General L.A. Armistead. Conspicuous to all, 50 yards in advance of his brigade, waving his hat upon his sword, he led his men upon the enemy with a steady bearing which inspired all breasts with enthusiasm and courage, and won the admiration of every beholder. Far in advance of all he led the attack till he scaled the works of the enemy and fell wounded in their hands, but not until he had driven them from their position and seen his colors planted over their fortifications.

In consequence of the great loss of field officers, the command of the brigade devolved upon Lieutenant Colonel White, Fourteenth Virginia, who retained it until his wound rendered him unable to do his duty. He was succeeded by Major Cabell, Thirty-eighth Virginia, who retained command until I was sufficiently recovered to assume it. I am, major, very respectfully, your obedient servant..." (3)

Command reports of recent operations such as JUST CAUSE and DESERT STORM may not be quite as colorful as those from the Civil War, but they are just as important in recording the Army's history. During World War II, the first European Theater of Operations historian, Col. W. A. Ganoe, captured the importance of after-action reports when he said, "History is the last thing we care about during operations and the first thing wanted afterwards. Then it is too little, too late, and too untrue." (4)

Perhaps the submission of timely, accurate reports will help negate to Colonel Ganoe's dictum.

Larry A. ("Ted") Ballard is a historian in the Center's Field and International Division, with a special interest in the Civil War.

Notes

1. AR 11-33, *The Army After Action Reporting System* and AR 870-5, *Military History: Responsibilities, Policies and Procedures* .

2. U.S. War Department, *War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies* (Washington, D.C.: Government Printing Office, 1885), series 1, vol. 12, part 2, pp. 501-02.

3. Ibid, series 1, vol. 27, part 2, pp. 999-1000.

4. Pamphlet, HQ, ETOUSA, 1 Jan 44, sub: Ganoe's Instructions to Unit Commanders and Historical Officers.

Letters to the Editor

Dr. John Greenwood's article on amphibious warfare (Army History *no. 27) prompted a letter from Lt. Gen. Robert E. Coffin, USA (Ret.). General Coffin's letter, extracted below, includes personal insights and additional information about amphibious warfare during World War II.*

I enjoyed reading [Doctor Greenwood's] superb article on amphibious warfare in the summer 1993 edition of *Army History*. In 1940 I joined the 3d Infantry Division at Camp Ord just after the division had completed its first major amphibious training exercise: leaving Fort Lewis on Army transports and going to San Diego, where Marine [Corps] instructors trained the various teams. They then combat-loaded the transports and sailed north to Monterey, where Navy whale boats landed them. Opposition was provided by a squadron and a battalion of the 11th Cavalry and 76th Field Artillery regiments.... General [George C.] Marshall came to see the operations over the beach and was deeply disturbed about how long it took to unload the fairly deep draft whale boats, particularly the artillery, which had to be lifted off the boats using huge A-frames. I believe Lt. Col. D[wight] D. Eisenhower commanded the 2d Battalion, 15th Infantry, at that time. Maj. Mark Clark was division G-3. Maj. Lucien Truscott was division G-2.

The 3d Division returned to Fort Lewis and we continued amphibious training to some extent. In October the division was reorganized from a square division to a triangular division. That process took about six months during which almost all training was at the unit level. However, we did start to get the field artillery closer to the infantry, because each field artillery battalion now had a regiment it normally supported. When we did amphibious training, each light artillery battery became a part of a battalion landing team (BLT). We had an engineer boat unit stationed in Tacoma and made some landings on deserted islands in Puget Sound. In February 1942 we were ordered to the South Pacific. We had our advance parties on board transports when the order was canceled.

In April 1942 we were moved to Fort Ord where we engaged in full-time amphibious training with a Navy boat detachment, which had moved from San Diego to Monterey where it was attached to the local Coast Guard unit. About two nights each week by BLT we loaded onto the Navy landing craft (LCPs) about midnight, proceeded out to sea where we circled for an hour or so, and then just before dawn the first wave hit the beach. By noon we had fought our way inland to Highway 1, where trucks waited to return us to our unit areas to clean up the waterlogged equipment, get some rest, and get ready for the next exercise. Each BLT went to San Diego for marine training (the division was a part of a marine corps at that time). The field artillery officers spent much of their time at Camp Pendleton learning shore fire control procedures.

In early September 1943 the division moved to Camp Pickett, Virginia. There we were billeted as BLTs and spent a month or so getting new equipment and making a couple of practice landings on Solomon's Island in the Chesapeake. In early October our advance parties moved to Norfolk Naval Base and we loaded and sailed for TORCH on 24 October. I commanded A Battery, 41st Field Artillery Battalion, which was a part of the 1st Battalion, 30th Infantry BLT. We sailed on a new, small Navy attack transport, the USS *Charles Carroll*. We landed on Beach Blue—my boat landing an hour before H-hour...*[See General Coffin's article on TORCH in* Army *magazine, November 1992 issue].*

For the planning for an execution of the HUSKY landings in Sicily, I was assigned to Seventh Army as the naval shore fire control officer. For three weeks after the assault phase I was Maj. Gen. [George S.] Patton's junior aide. Then the 3d Division made three amphibious end-around operations and again I controlled the naval gunfire. I remained with Seventh Army and we began to plan what became DRAGOON, the landings in southern France. My role continued to be shore fire control—a very sticky interservice problem involving all supporting fire from ships and aircraft from all services and several nations. We worked out the Mediterranean Fire Control Code which standardized fire control procedures and commands, squared away the multitude of communications, and coordinated the whole thing with French Armee B (it later became the First French Army), a corps in Seventh Army. Comdr. Dave Scott...was the fire support officer for the Navy. We did all the planning jointly and operated from the same Jeep ashore. That was the last amphibious operation I was in during World War II.

My most significant memory of those years was how strong and forceful were Generals Patton and [Alexander M.] Patch. Vice Adm. [Henry K.] Kent Hewett was a real team coordinator and a gracious gentleman. He welded us into a magnificent fighting team. I worked with him several times.

Because of my background, when I completed CGSC [Command and General Staff College] in 1950, I was assigned to the airborne-amphibious division of the school staff. We had a Marine Corps lieutenant colonel who not only taught, he was responsible for making sure our teachings were coordinated with those at Quantico. We had several major amphibious operations as part of the curriculum.

I saw amphibious operations firsthand at the unit to army level with emphasis on the control of supporting fires. Today these problems are solved in the various levels of fire control centers (FCC). The FCC concept certainly grew out of the joint operations of our forces in World War II. I was really interested in [Doctor Greenwood's] account of the early conflicts and agreements at the joint and combined levels....

Lt. Gen. Robert E. Coffin
USA (Ret.)
Carmel, California

Book Reviews

Book Review
by Harold E. Raugh, Jr.

Fallen Stars: Eleven Studies of Twentieth Century Military Disasters
Edited by Brian Bond
Brassey's (UK). 278 pp., £24.95

Eminent British military historian Brian Bond, in his excellent introduction to *Fallen Stars*, observes correctly that "failure in battle can be interesting and instructive." To be sure, the diligent study of examples of military leadership, both good and bad, is worthwhile and can definitely supplement practical experience.

The purpose of this book is not to resurrect the reputations of those once promising "fallen stars" or further to disparage tarnished images, but rather to "reassess the nature of their subject's fall and whether or not it was justified." The eleven case studies, which include four senior commanders from World War I (Aleksandr Vasilevich Samsanov, Ian Hamilton, Robert Nivelle, and Sir Hubert de la Poer Gough) and seven from World War II (Sir Percy Hobart, Maurice Gustave Gamelin, Edmund Ironside, Douglas MacArthur, John P. Lucas, Renya Mutaguchi, and Gerd von Rundstedt), are all highly readable and of a uniformly excellent quality.

Each author successfully dissects his protagonist's major battle or campaign, emphasizing within the context of contemporary military and political parameters the role and performance of the commander. Not all commanders were failures; some were definitely scapegoats, although in some cases the perception lingers that they failed to meet the challenge of high command. In addition, the chapters highlight the potential problems of civil-military relations.

The chapter on MacArthur by Duncan Anderson is very interesting since the general left the Philippines in 1942 a veritable hero, without the taint of failure which the author demonstrates convincingly belonged squarely on his shoulders. Perhaps a chapter on MacArthur's performance in Korea would have been equally—or more—worthwhile. Other chapters could have been devoted to Archibald Perival Wavell, Arthur E. Percival, and Sir Claude Auchinleck, among others. Martin E. Alexander's study of Gamelin and Julian Thompson's essay on Lucas are noteworthy for their depth of research, scholarship, and use of primary source material.

Professor Bond and his team of historians are to be congratulated for producing such a thought-provoking, interesting, and superb book. The well-written vignettes of military history, and analyses of combat leadership, are especially worthwhile and readable and make this book an indispensable addition to the professional soldier's library.

Maj. Harold E. Raugh, Jr., USA, currently is assigned to the United Nations (UN) Peacekeeping Operations Division of the Deputy Chief of Staff for Operations at the Pentagon. Formerly with the UN Truce Supervision Organization in Amman, Jordan, he is the author of Wavell in the Middle East, 1939-1941: A Study in Generalship.

Book Review
by Terrence J. Gough

U.S. Military Logistics, 1607-1991: A Research Guide
by Charles R. Shrader
Greenwood Press. 384 pp., $65.00

Researchers needing information on the history of U.S. Army logistics can turn to only a limited number of books that are devoted solely to the subject. There is a considerable amount of useful material scattered in other books and in periodical literature, but the field suffers from a lack of integration and synthesis, both within itself and in relation to military history more broadly. This undesirable situation has implications for national security policy. As Charles R. Shrader points out in his welcome addition to the Greenwood series Research Guides in Military Studies, "Those who would understand the elements of military power must understand logistics and how it influences strategy and tactics." By providing a firmer basis for coherent study, *U.S. Military Logistics, 1607-1991: A Research Guide* helps open the way toward that understanding.

Noting in his introduction the great breadth of the subject, Shrader explains that he "focuses almost exclusively on Army (ground force) logistics and concentrates on logistical theory and doctrine, the organization and management of logistical activities, and the activities of the Quartermaster, Transportation, Subsistence, and Ordnance departments and their successor agencies from colonial times to the present." He conveys the multifaceted nature of the field by presenting various definitions of logistics (without declaring a preference). He then usefully and concisely lays out major historical themes in U.S. military logistics: its increasing importance, the growth in its complexity and scale, cooperative logistics, professionalization and specialization, the growing logistical tail, the increasing proportion of civilians involved, and centralization and functionalization.

From this prepping on the big picture, one plunges with delight into a lucid, succinct, and informative essay on "The Top Fifty Works in the Field," not ranked, but as a group. The enterprise is idiosyncratic to some degree, as Shrader readily admits, but all the better to engage the reader. I found just right the inclusion of Martin van Creveld's *Supplying War* with an allusion to its unsupported assertions about the European Theater of Operations in World War II. On the other hand, can Donald Nelson, *Arsenal of Democracy*, justly elbow out the War Production Board's massive and indispensable official history of World War II industrial mobilization? While old hands may applaud or disagree with particular selections, even many of the most knowledgeable readers may owe to Shrader their introduction to William Morris Hoge's 1968 Washington State University M.A. thesis on the Army's logistical system in the Indian wars.

However instructive to the initiated the "top fifty" piece proves to be, Shrader hopes that it will serve as a jumping-off point for the interested student, and he contributes further toward that aim with a succeeding, brief essay on research opportunities. His suggestions for topical and chronological undertakings—among them the role of logistics in operations, the evolution and influence of logistical doctrine, the logistical organization and operations of opponents and allies, and statistics—are cogent.

Next he offers a mixed bag of a chapter on "Government Documents, Manuscripts, Periodicals, and Unit Histories." While suggestive for the beginning researcher, the chapter lacks the thoroughness (probably, in part, because of space constraints) to be of more than spotty value to the seasoned logistical historian. The statement that many of the relevant official records are available on microfilm hardly applies to the vast bulk of twentieth-century material. There is a partial list of germane National Archives record groups but no reference to the comprehensive *Guide to the National Archives*. The 1943 edition of *War Department Decimal File System* is mentioned, but not the 1918 *War Department Correspondence File*, which is the version to use for the World War I era. Shrader's partially annotated list of current Army regulations and manuals is useful because in many cases it can be employed to trace previous editions and predecessor publications. He provides an interesting annotated sampling—and warns that it is no more than that—of pertinent manuscript collections at the Library of Congress, the Military History Institute, and other repositories. Regarding periodicals, in essay form he covers the most significant ones well with a few exceptions. The lineage given for *National Defense* is incorrect, the errors including a beginning date for predecessor *Army Ordnance* of 1915, five years too early. Michael Unsworth's *Military Periodicals* (1990), which Shrader

does not cite, is the place to go for detail in this area. A good, short section with the most essential information on unit histories as a category of research tool ends the chapter.

The remaining seven chapters, covering the science of logistics, general works, quartermaster, transportation, subsistence, ordnance, and mobilization and procurement, are in standard bibliographic, rather than essay, format. Except for the first of the seven, which is arranged topically, Shrader follows a periodized chronological scheme (a general category and five standardized periods) within each chapter. Items are numbered in a single sequence throughout to facilitate reference, and most of them are annotated.

The quality of the annotations varies rather widely, with some providing a pithy summary of the coverage or thrust of the item and others merely repeating what is obvious from the title of the work. A comparatively few items are not annotated, which can leave the reader wondering about the identity of "The Ultimate Vehicle" (*National Defense Transportation Journal*, 1952) or the "Pilgrims of 1946" (*Army Transportation Journal*, 1946). Presumably in the interests of objectivity, Shrader only occasionally ventures a strong opinion—usually "excellent," only once "execrable"—on a particular work. I concluded that this restraint might be the better part of wisdom when I found that he considers excellent a dissertation on World War I that I believe is demonstrably muddled and unreliable and does not adhere to some of the basic tenets of historical scholarship.

Of more concern, because they are not matters of opinion, are Shrader's descriptions of two books in the official series United States Army in World War II. The annotation for *The Ordnance Department: Planning Munitions for War* reads, in toto, "Official history of the Ordnance Corps in the pre-World War II period." Similarly, "Official Army history of planning for industrial mobilization in the 1920s and 1930s" is the entire annotation for *The Army and Industrial Manpower*. The bulk of both books is devoted to the war period (and "industrial mobilization" does not equate to "industrial manpower"). In a like case, Shrader incorrectly indicates that Raymond W. Goldsmith's 1946 article on "The Power of Victory: Munitions Output in World War II" deals only with the prewar period. Such lapses diminish confidence in the treatment of items with more inscrutable titles and with which the reader is not familiar.

There also are errors in the rendering of authors' names and of titles. John David McBride, not John P. McBridge, wrote a 1977 University of Virginia dissertation—Shrader rates it "excellent"—on "The Virginia War Effort, 1775-1783: Manpower Policies and Practices" (not "Manpower, Political and Practice"). Minor mistakes appear in the entries for four books familiar to me, and the Army War College Historical Section Study number for Hoffman Nickerson, "Procurement Trends," is 59, not 5.

On the more subjective issue of inclusiveness, a case can be made that some absent items deserve a place. The University Press of Virginia edition of the Papers of George Washington, in progress, and Roger J. Spiller's dissertation on John C. Calhoun as secretary of war come to mind here. There are several books on Operation Paperclip that could be cited instead of a two-page article in *Ordnance Magazine*. And books by Edward Hagerman and Gerald White, not just their articles, merit inclusion.

But Shrader generally deserves high praise for casting a wide net. He disclaims his ability to include anything but the most obvious works from the extensive literature on mobilization and procurement, yet his chapter on those subjects is very good and will be useful to specialists. His guide is especially valuable for its inclusion of many obscure articles from professional journals that are not adequately or conveniently indexed. For example, he cites many articles from the *Journal of the Military Service Institution of the United States* and the *Quartermaster Review* (though I wish he also had combed *Army Ordnance*, 1920-47, and *Ordnance*, 1947-73). He even includes some relevant pieces from popular magazines.

Not to be overlooked are three appendixes, each covering the period from 1775 through the 1980s, that list "key logistical personalities" by position with dates of service; Army expenditures; and Army strength. These lists are a godsend for reference purposes, although a spot check found that the first appendix includes the acting quartermasters general but not the acting chiefs of ordnance during World War I. Also, the statement that "reliable figures on the number of officers and enlisted personnel are not available for . . . 1983-89" is incorrect. The annual Department of Defense publication, *Selected Manpower Statistics*, provides official figures.

Author and subject indexes, both commendably full, make the guide easy to use. The subject index mercifully contains many analytical subentries, and only in a handful of main entries on broad topics, such as railroads and some wars, is it necessary to wade through two dozen or more undifferentiated item citations.

U.S. Military Logistics, 1607-1991, is a book whose time was overdue. It is immensely helpful to have at hand, at last, a bibliography that brings to light so much information on this essential and multifaceted component of

military history. A more consistent precision in the execution of the bibliographer's task might have been hoped for, but the benefits of the work overwhelmingly outweigh its imperfections. Armed with Shrader's guide, military historians are better equipped to form coherent patterns from the diverse and fragmented literature on logistics. We can discern more easily now where we have—and have not—been and where we need to go.

Terrence J. Gough, chief of the Center's Staff Support Branch, is the author of U.S. Army Mobilization and Logistics in the Korean War: A Research Approach.

Book Review
by Bruce D. Saunders

PSYWAR; Psychological Warfare in Korea, 1950-1953
by Stephen A. Pease
Stackpole Books. 168 pp., $12.95, paper bound

This work covers two subjects that have been neglected for many years: the Korean War and psychological warfare, or PSYWAR. Using a number of interviews with participants in various PSYWAR operations, more than fifty excellent photographs, and several maps, Stephen A. Pease carefully presents an overview of PSYWAR operations during the Korean War.

The interesting and very informative introduction begins with a short summary of PSYWAR in ancient and modern warfare and continues with a more detailed examination of PSYWAR operations during the Korean conflict. Topics covered include the production and use of leaflets, broadcast news operations, enemy PSYWAR operations, the role of prisoners of war (POWs) in PSYWAR activities, and the use of searchlights, loudspeakers, and bugles.

While historians and intelligence specialists will welcome this volume as one of the few available sources of information on PSYWAR in Korea, researchers may be disappointed that the eight chapters rest upon only forty-five footnotes. Recognizing the problems of security classifications and the difficulties involved in locating source materials and individuals forty years after a war, we can hope that other scholars and researchers will build upon the excellent introduction that Pease has written.

In addition to the well-written text, this book also contains two appendixes, including the official report comparing the Soviet-built MiG-15 and the American F-86D aircraft. A glossary, a three-page list of sources, and an index complete this brief, but valuable study. Students of the Korean War, intelligence research analysts, and those interested in psychological operations will benefit from this work, but all of them will wish for a more detailed and lengthy study of this important topic.

Dr. Bruce D. Saunders, a specialist in the history of intelligence operations, was command historian at the U.S. Army Intelligence Center before joining the Field and International Division in 1993. He recently departed the Center of Military History for a new assignment in Germany.

Book Review
by Robert K. Wright, Jr.

Battle for Panama: Inside Operation JUST CAUSE
by Edward M. Flanagan, Jr.
Brassey's (US) Inc. 271 pp., $25.00

Traditionally, a military historian wrote a book after conducting research in the records retired to the National Archives, supplementing the official accounts with participants' memoirs, diaries, and private letters. Authors working on "current operations" do not enjoy that luxury. The Army's records-keeping system fails to preserve adequately many of the basic documents. More to the point, even those papers that are identified as "historically significant" take years to work their way from the unit level to a repository where scholars can use them. In the era of the so-called MTV generation, the situation is even bleaker for personal papers, and publishers appears to be interested only in the "quick and dirty" memoirs of the most senior officers. On a positive note, however, oral interviewing offers a solution to the researcher's need for rapid access to historical information.

JUST CAUSE, the 1989-90 operation that removed Manuel Noriega from power in Panama, illustrates the challenges of current military history. It demands attention as the first major combat operation attempted in the aftermath of the Goldwater-Nichols reform of the Department of Defense. It is the first combat

operation conducted by the United States in the post-Cold War world (soldiers watching television in Panama saw the Berlin Wall come down). It is a case study in the conduct of power projection contingency operations. And, finally, although JUST CASUE was immediately overshadowed in the popular press by the vastly larger Gulf War, low intensity conflicts like the one in Panama probably will be far more common in the future.

Edward ("Fly") Flanagan is admirably suited to write on the subject. A paratrooper and veteran of World War II, Korea, and Vietnam, he retired as a lieutenant general after holding a wide variety of command and staff assignments and took up a career as author and columnist. As a former practitioner of the art of war, he understood the records problem when he set out to do his research and aggressively sought out and interviewed the veterans of operations in Panama, He then organized the results into three sections for this book.

The first seven chapters summarize the political and military "Background and Preparation" of JUST CAUSE. While adequately capturing the national-level policy formulation that formed the heart of Bob Woodward's controversial work, *The Commanders*, Flanagan's great contribution comes in laying out the process by which General (Ret.) Carl Stiner and the staff of XVIII Airborne Corps drafted and revised OPLAN 90-2, the actual attack scenario. It is this document rather than the original U.S. Southern Command BLUE SPOON that has military significance as the case study of the surgical application of overwhelming force to minimize friendly and hostile casualties. His source for this account is impeccable: Lt. Col. (then Maj.) Dave Huntoon, who wrote the plan along with his boss, Col. (then Lt. Col.) Tim McMahon.

Section two devotes fourteen chapters to "Combat," by which he generally means the events of D-day (20 December 1989) in Panama. This is the most difficult portion of the operation to reduce to words because it really involved engaging twenty-seven separate targets with a wide variety of conventional and special operations forces. Flanagan's accounts of the activities of the Navy SEALs and Army Rangers and Special Forces are the best in print. Those who remember the live television coverage of the 82d Airborne Division's role at Panama Viejo and in the "rescue" of the Marriott Hotel "hostages," or the 193d Infantry Brigade's actions at Fort Amador and the Comandancia will find that this book provides a detailed context to those operations as well.

The final section of three small chapters is entitled "Finishing the Job" and provides a relatively hasty overview of the "policing up" of the battlefield. Ironically, for those involved in JUST CASUE these were the longest and most trying days but, because they lacked "combat," have not been thought colorful enough to garner the attention they deserve in this or any other account of the operation.

Both Flanagan and Tom Donnelly's staff of *Army Times* in their *Operation JUST CAUSE* (1991) employed a similar research approach. Both offset the lack of written documentation by using extensive interviews with participants. Each volume contains some overlap, but both belong on the serious student's bookshelf because the authors talked to different units and individuals. The books are complementary and in fact are primary source documents that take the place of an older generation's memoirs and diaries. Until Dr. Larry Yates' official history is published, they also constitute the most accurate accounts available of this singularly complex operation.

Dr. Robert K. Wright, Jr., served during JUST CAUSE as the command historian for XVIII Airborne Corps and Joint Task Force SOUTH. He is chief of field programs in the Center's Field and International Division.

Videotape Review
by Steve E. Dietrich

The Tank in the World War
by Arthur H. Dalzell
Norwich University Archives Videocassette. $30.00

First Lt. (Ret.) Arthur H. Dalzell's lecture, *The Tank in the World War*, offers an overview of armor forces in World War I, while it focuses on the creation and employment of the first American heavy tank battalion. Dalzell, retired from the U.S. Tank Corps and an original member of the heavy tank unit, composed the lecture shortly after the war and presented it at Norwich University. Later, he donated the original photographic slides, antique slide projector, and a transcript of his lecture. The university recently reproduced the lecture on videotape.

The finished product has two strengths. First, the photographic slides, approximately half from Great Britain's Imperial War Museum and half from Dalzell's personal collection, are extremely rare. I can recall seeing only one of the 185 slides previously. The photographs show the effects of combat on the countryside, different

types of equipment and tactics, various tank models, and rare glimpses of armored combat. Second, Dalzell's anecdotal narrative is the most thorough known personal account by a World War I heavy tank officer. His story complements Dale Wilson's *Treat 'Em Rough: The Birth of American Armor, 1917-1920*, which suffers from an overemphasis on light tanks. Happily, Dalzell's insights enable us to redress the imbalance between the light and heavy armor units. The videotape, therefore, is an excellent companion to Wilson's book.

The videotape does have flaws. A running time of 1 3/4 hours makes it too long for instructional use. There are numerous factual errors, especially about light tanks and units. For example, Dalzell notes that the first American tank combat was on 29 September 1918; in fact, U.S. light tanks fought earlier that month. The tape also suffers from production limitations—the visibility of some slides and the one map is poor; highlights should be used on some photographs to support the text; the narration is distracting; and the text needs editing to correct Dalzell's dated and cumbersome syntax.

Despite its problems, the videotape is an important historical resource. Researchers may find it worthwhile, museum curators may want to show segments, instructors could use portions to enhance courses in ROTC or Army schools, and unit leaders may want to share sections with their soldiers.

Lt. Col. Steve E. Dietrich, an armor officer, is chief of the Military Studies Branch in the Center's Research and Analysis Division. Colonel Dietrich currently is preparing a monograph on the M1A1 tank rollover program of Operations DESERT SHIELD and DESERT STORM.

Forthcoming in *Army History*...

David P. Harding's "other side of the hill" look at Heinz Guderian's impact on the development of German armored forces between the two world wars.

Professor Patrick W. Carlton's examination of civil affairs operations in Kuwait with the Kuwaiti Task Force.

Book review by Larry ("Ted") Ballard of Shelby Stanton's *U.S. Army Uniforms of the Korean War*.

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